Corning Life Sciences

Product Selection Guide

Issue 9

CORNING

Product Ordering Information

Ordering Products Direct from Corning

For our U.S. customers who currently have Corning accounts, you can order direct through our Customer Service group or online:

t: 800.492.1110, prompt 2
f: 978.442.2476
e: CLSCustServ@corning.com
w: www.corning.com/lifesciences

Hours of Operation: Monday to Friday, 8:00 a.m. to 6:00 p.m. (Eastern Standard Time)

Customers outside of the U.S., please contact your local Corning distributor, www.corning.com/lifesciences.

Phone/Fax Orders

For each order, customers should provide the Corning product number, product description, and desired quantity. You should also include your billing and shipping address and your Corning account number.

Online Orders

In order to purchase Corning products online, please visit the Corning Life Sciences website at www.corning.com/lifesciences. Click on "Order Now, Login" and complete the online registration form. Customers using credit cards may immediately place orders. Full Service Direct accounts with account specific contract pricing will need to establish a direct account with Corning Customer Service before online transactions can be made. You can complete the online registration form or contact Corning Customer Service directly at 1.800.492.1110 in order to establish a direct account with Corning.

To purchase Corning media products, visit www.corning.com/lifesciences/media.

Ordering Products Through our Distribution Partners

Customers can purchase Corning products from any one of our more than 50 authorized distributors. See our complete listing of Corning distributors online at www.corning.com/lifesciences. Our distribution partners can offer our customers a variety of value added services from local inventory and service, to managed services, and preferred programs. Please contact your distributor of choice for more details.

Scientific Support

Our experienced team of scientific support specialists is ready to assist you with applications questions, troubleshooting advice, product selection and more.

t: 800.492.1110, prompt 3
f: 978.442.2476
e: ScientificSupport@corning.com

Hours of Operation: Monday to Friday, 8:00 a.m. to 5:30 p.m. (Eastern Standard Time)

Pricing

Prices shown on the Corning Life Sciences website (in our online www.corning.com/lifesciences catalog) reflect our current suggested U.S. list price. For customer specific pricing information, please contact Corning Customer Service or your authorized Corning Distributor.

Product Return Policy

To return product, contact your local Customer Service Representative. The order and lot number details are required. Please have this information available to obtain a Return Authorization Number. This Return Authorization Number must be referenced on the outside of the shipping carton. Returns without an approved Return Authorization Number will be refused and returned at the customer's expense.

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For Falcon® branded products, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

For Axygen® branded products, see the **Axygen Selection Guide** (CLS-A-PSG-001).

For Gosselin™ branded products, see the **Gosselin General Catalog** (CLS-G-GEN CAT-002).

For PYREX® branded products, see the **PYREX and Corning Glass and Reusable Plastic Product Selection Guide** (CLS-GL-001).

ADME/Tox

Ordering and Customer Service Contact Information

Corning® ADME/Tox Products:

Customer Service
tel: 800.492.1110, option 2; 978.442.2200
fax: 978.442.2476
email: CLSCustServ@corning.com

Scientific Support
tel: 800.492.1110; 978.442.2200
fax: 978.442.2476
email: ScientificSupport@corning.com

Outside the U.S., contact your local distributor or visit **www.corning.com/lifesciences** to locate your nearest Corning office.

Corning Gentest℠ Contract Research Services

To discuss and order Corning Gentest Contract Research Services, contact Corning Life Sciences at: tel: 888.334.5229 x2246 or 781.935.5115 x2246, email: ScientificSupport@corning.com

Shipment of Corning Gentest LLC-PK_1 control and P-gp expressing cell lines requires receipt by Corning Life Sciences of an executed USE AGREEMENT (non-commercial use by non-profit organizations only) or an executed LICENSE AGREEMENT. Contact a Technical Support Representative or your local Sales Representative for more information regarding these agreements.

Terms and Prices

Manufacturers' terms and conditions for direct orders:

- No minimum order required
- Same-day shipment available
- Confirmation of shipping made at time of order
- Written confirmation required only for standing, blanket, or change orders
- Prices quoted in U.S. dollars
- MasterCard, Visa, or American Express cards accepted
- Payment terms are net 30 days
- Payment remittances should be sent to the address printed on the invoice
- Freight terms are FOB origin
- Charges for freight, handling, wet/dry ice, and packaging will be added to invoice as a separate item
- Taxes imposed on the sale of any product will be added to the price quoted
- Prices are subject to change without prior notification

Online Shopping

Visit **www.corning.com/lifesciences** and open an account to order products online.

Delivery and Product Satisfaction on Direct Orders

- Products will be replaced at no cost, if the product does not conform to the accompanying analytical data report.
- Products will be replaced at no cost, if shipment is incomplete or damaged. Report incomplete shipments within 5 days, damaged shipments within 48 hours.
- Returned goods authorization (RGA) number, assigned by a Customer Service Representative, is required prior to all product returns.
- Appropriate shipping documents, cartons, and packing materials are required for all product returns.
- No product may be returned for credit or replacement after 20 days.

HepatoLink

HepatoLink® is the Corning Life Sciences immediate response system providing researchers with instant notification when Corning Gentest hepatocyte products are available. For your convenience, select a preferred contact method—email, phone, and/or SMS text alerts. Upon registration, you will be sent donor characterization data when a new lot becomes available. You can register online at **www.corning.com/lifesciences/hepatolink**. Place your order directly through Corning's online system. If you have any questions regarding Corning's program or your participation, please contact us at 978.442.2200 or email hepatocytes@corning.com.

All Corning Gentest fresh and cryohepatocyte orders must be lot specific. Each lot number corresponds with a specific donor and must be included with your order. An up-to-date listing of Corning Gentest human fresh and cryohepatocyte donors with donor demographics, donor history, and characterization data is maintained at **www.corning.com/lifesciences/admetox**.

Use of Genetically Modified Microorganisms (GMMO)

Information for European Customers: Corning immortalized hepatocytces, Corning Supersomes™ enzymes, Corning TransportoCells™ products, or other products considered genetically modified microorganisms as described in Corning Life Sciences technical literature. As a condition of sale, use of these products must be in accordance with all applicable local guidelines on the contained use of genetically modified microorganisms, including the Directive 2009/41/EC of the European Parliament and of the Council.

Absorption/Transport

CELL CULTURE AND MULTIWELL FILTER PERMEABLE SUPPORT SYSTEMS

Corning® Gentest™ Pre-coated PAMPA Plate System

Cat. No.	Description	Qty/Cs
353015	Corning Gentest PAMPA 96-well pre-coated filter plate, individually packaged with a 96-well microassay receiver plate	5

Other Products – Cell Culture and Multiwell Filter Permeable Support Systems

- Corning BioCoat™ HTS Caco-2 assay system
- Corning BioCoat Fibrillar Collagen 24-Multiwell permeable support system
- HTS Transwell® 24-well permeable support systems
- Falcon® 24-Multiwell permeable support systems
- Companion products for Falcon 24-Multiwell permeable support systems
- HTS Transwell 96-well permeable support systems
- Falcon 96-Multiwell permeable support systems
- Companion products for Falcon 96-Multiwell permeable support systems
- Transwell individual cell culture permeable supports
- Falcon individual cell culture permeable supports

For more information on Corning cell culture and Transwell® permeable support inserts, see the **Cell Culture** section of this catalog or the **Permeable Supports Selection Guide** (CLS-CC-027).

For more information on Falcon® cell culture and Multiwell filter permeable support inserts, see the **Falcon Product Selection Guide** (CLS-F-PSG-001) or the **Permeable Supports Selection Guide** (CLS-CC-027).

ABC AND SLC TRANSPORTER MODEL SYSTEMS

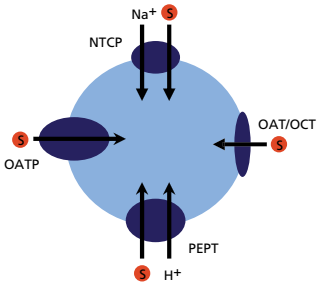
Corning offers a range of products and assay solutions for the assessment of absorption properties and transporter studies.

Corning® Gentest™ transporter products are *in vitro* models designed for use in drug transport studies, and include ATP Binding Cassette (ABC) transporter membranes, ABC transporter inside-out vesicles, and SLC transporter expressing cells. These recombinant products are designed for high throughput screening use in ADME studies. Corning also offers transporter-qualified primary hepatocytes that can be used in suspension or monolayer assays. These native cells models provide a more accurate prediction of *in vivo* activity than most standard recombinant models.

Corning TransportoCells™ Cryopreserved SLC Transporter Cells

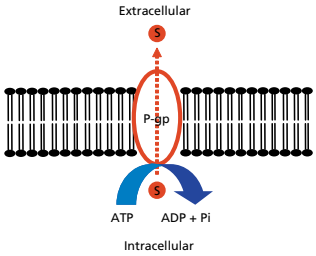
Corning SLC TransportoCells products are high performance mammalian cells transiently over-expressing a single human SLC transporter protein. They are ideal cell-based models for studying transporter activities in reaction phenotyping, drug-drug interaction and drug clearance studies

- Cryopreserved, single-use HEK-293 cells expressing a single transporter
- High and robust signal-to-noise ratio (S:N ≥10)
- Direct measurement of transporter-mediated drug uptake
- Cells can be thawed, plated, and assayed in just 24 hours
- Use in drug uptake assays for radiolabeled or non-radiolabeled compounds



Corning® TransportoCells™ Cryopreserved SLC Transporter Cells (Continued)

Cat. No.	Transporter	No. Cells/Vial	Qty
354859	OATP1B1*1a/SLCO1B1*1a	≥10 million cells	1
354851	OATP1B3/SLCO1B3	≥10 million cells	1
354857	OAT1/SLC22A6	≥10 million cells	1
354858	OAT3/SLC22A8	≥10 million cells	1
354852	OCT1/SLC22A1	≥10 million cells	1
354853	OCT2/SLC22A2	≥10 million cells	1
354860	PEPT1/SLC15A1	≥10 million cells	1
354861	PEPT2/SLC15A2	≥10 million cells	1
354862	OATP2B1/SLCO2B1	≥10 million cells	1
354863	OATP1A2/SLCO1A2	≥10 million cells	1
354864	NTCP/SLC10A1	≥10 million cells	1
354855	MATE1/SLC47A1	≥10 million cells	1
354856	MATE2-K/SLC47A2	≥10 million cells	1
354854	Control	≥10 million cells	1



Corning Gentest™ ABC Transporter Membranes

Corning Gentest ABC transporter membrane products are easy-to-use, high throughput models for rapid screening of compounds in drug discovery. They are ideal for use in pre-screening assays to measure a drug candidate's ability to stimulate or inhibit P-gp, MRP, and BCRP ATPase activity.

- Prepared from recombinant baculovirus-infected insect cells
- Measurement of drug-stimulated vanadate-sensitive ATPase activity
- Assay developed for non-radiolabeled compounds

Cat. No.	Transporter	Protein Concentration (mg/mL)	Qty (mL)
453228	Human P-gp (MDR1)	5	0.5
453440	Rat P-gp (Mdr1a)	5	0.5
453434	Rat P-gp (Mdr1b)	5	0.5
453232	Mouse P-gp (Mdr1a)	5	0.5
453250	Mouse P-gp (Mdr1b)	5	0.5
453230	Cynomolgus Monkey P-gp (Mdr1)	5	0.5
453231	Rhesus Monkey P-gp (Mdr1)	5	0.5
453229	Beagle Dog P-gp (Mdr1)	5	0.5
453456	Human MRP1	5	0.5
453332	Human MRP2	5	0.5
453333	Human MRP3	5	0.5
453340	Rat Mrp1	5	0.5
453334	Rat Mrp2	5	0.5
453270	Human BCRP (Arg482)	5	0.5
453257	Human BCRP (Thr482)	5	0.5
453457	Rat Bcrp	5	0.5
453251	Mouse Bcrp	5	0.5
453200	Control membrane preparation for ABC transporters (negative control)	5	0.5

Arg = Arginine, Thr = Threonine.

Corning® Gentest™ ABC Transporter Vesicles

Corning Gentest ABC transporter inside-out vesicles are used in *in vitro* direct uptake assays to evaluate whether a drug candidate is a substrate or inhibitor for transporters. This information can help to predict the interactions between drug compounds and efflux transporters. ABC transporter vesicles are an ideal transporter model over cell-based assays for compounds unable to penetrate the plasma membrane by simple diffusion.

- Prepared from recombinant baculovirus-infected insect cells
- Direct measurement of transporter-mediated drug uptake
- Use in drug uptake assays for radiolabeled or non-radiolabeled compounds

Corning also offers transporter vesicle kits to use with the vesicle products. The kits contain all necessary buffers and chemicals for performing 200 assays, providing convenience and reducing the time needed for reagent preparation.

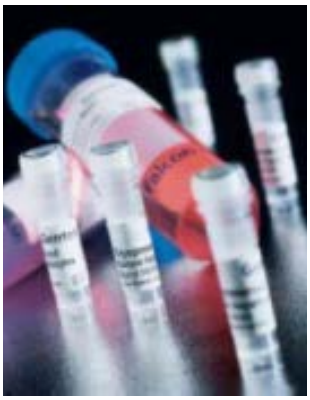
Cat. No.	Transporter	Protein Concentration (mg/mL)	Qty (mL)
453455	Human MRP1	5	0.5
453450	Human MRP2	5	0.5
453520	Human MRP3	5	0.5
453510	Rat Mrp1	5	0.5
453523	Rat Mrp2	5	0.5
453501	Rat Bsep	5	0.5
453502	Human BSEP	5	0.5
453271	Human BCRP (Arg482)	5	0.5
453345	Rat Bcrp	5	0.5
453252	Mouse Bcrp	5	0.5
453500	Control vesicle (negative control)	5	0.5

Arg = Arginine.

Corning Gentest Transporter Kits

Corning transporter membrane and vesicle kits provide convenience and reduce the time needed for reagent preparation. The ATPase kit contains all necessary buffers and chemicals for performing five 96-well plate assays. The BSEP and BCRP/MRP kits contain all necessary buffers and chemicals for performing 200 assays. However, these kits do not include vesical or membrane preps.

Cat. No.	Description	Qty
459006	Corning Gentest ATPase assay kit Kit contains reagents for five 96 well plate assays (assay buffer, 10 mM phosphate standard, 50 mM ATP, 10 mM sodium, orthovanadate, assay stop solution, reducing agent, color solution A, color solution B, 1 mM verapamil, 1 M N-ethylmaleimide, 1 M GSH, 100 mM probenecid, 25 mM benzbromarone, 1 mM sulfasalazine).	1 kit
459010	Corning Gentest MRP/BCRP vesicle assay kit Kit contains reagents for 200 assays (assay uptake buffer, 10X wash buffer, 200 mM ATP, 200 mM AMP, 300mM GSH, MRP3 substrate, BCRP substrate, MRP2/MRP3 fluorescent substrate, MRP1/MRP2 substrate).	1 kit
459011	Corning Gentest BSEP Vesicle Assay Kit Kit contains reagents for 200 assays (assay uptake buffer, 10X wash Buffer, 200 mM ATP, 200 mM AMP, BSEP substrate, blocking buffer [50X]).	1 kit



Corning® Gentest™ Transporter-qualified Human CryoHepatocytes

Corning Gentest transporter-qualified human cryopreserved hepatocytes are ideal for *in vivo*-like screening of drug compounds for hepatic transporter uptake activity, as well as for investigating transporter involved drug-drug interaction. Every lot is extensively tested, pre-qualified for transporter activity using 3H-Estrone-3-sulfate, 3H-TCA, and 3C-TEA as probe substrates for hOATP, hNTCP, and hOCT1, respectively. These hepatocytes can also be used in metabolic stability and drug clearance studies.

For SLC transporter-specific characterization, such as evaluating a drug candidate's affinity to a specific SLC transporter, follow up your testing with Corning SLC TransportoCells™ products.

To view an up-to-date listing of Corning Gentest transporter-qualified human cryopreserved hepatocyte donors with donor demographics, donor history, and characterization data, contact ScientificSupport@corning.com.

Cat. No.	Description	Cells/Vial	Qty/Pk
454541	Corning Gentest plateable transporter-qualified human cryohepatocytes	≥5 million cells	1.5 mL
454426	Corning Gentest SLC transporter-qualified human cryohepatocytes in suspension	2-5 million cells	1.5 mL
454427	Corning Gentest SLC transporter-qualified human cryohepatocytes in suspension	≥5 million cells	1.5 mL
454460	Corning Gentest hepatocyte transporter suspension assay kit Kit contains a detailed transporter uptake protocol, 10 mL of filtration oil, and 100 easy-to-cut centrifuge tubes.	1 kit	100 tests

Corning® Gentest™ LLC-PK$_1$ Control and P-gp Expressing Cells

Corning Gentest transfected P-gp cDNA-expressing cell lines are prepared from a clonal population derived from the LLC-PK1 cell line. The LLC-PK1 model containing the P-gp expressing cells and the control cells provides a robust model to determine P-gp-specific transport of a substrate. LLC-PK1 cells are morphologically and functionally similar to intestinal barrier cells, with measurement of drug apparent permeability (Papp) through cell monolayers being well correlated with human intestinal absorption.

Typical Applications

- Screening assays for Papp, P-gp-mediated transport, and P-gp inhibition
- Characterizing the interaction of a drug with P-gp for concentration-dependent efflux and inhibition of P-gp (IC_{50})
- Assess potential transporter-mediated drug-drug interactions

Shipment of Corning Gentest LLC-PK1 Control and P-gp expressing cell lines requires receipt by Corning Life Sciences of an executed USE AGREEMENT (non-commercial use by non-profit organizations only) or an executed LICENSE AGREEMENT. Contact a Scientific Support Representative at 800.492.1110 or your local Account Manager for more information regarding these agreements. **Note:** Cell lines are not available for purchase online.

Cat. No.	Description	Qty
450211	LLC-PK$_1$ expressing MDR1 cDNA cell line	1
450216	LLC-PK$_1$ control cell line (contains same vector and promoter used in Cat. No. 450211)	1

CHEMICALS FOR MEASURING TRANSPORTER ACTIVITY

CLF is a fluorescein-labeled bile acid with biological behavior closely resembling naturally occurring cholyl glycine. CLF is secreted into bile canaliculi by the bile salt export pump (BSEP) transporter.

Cat. No.	Description	Qty/Pk
451041	CLF (Choly-lysyl-fluorescein)	1 mg

Metabolism

RECOMBINANT METABOLIC ENZYMES, COFACTORS, AND BUFFERS

Corning® Supersomes™ Enzymes are recombinant enzyme products and recognized worldwide as the industry gold standard. These enzymes are prepared from baculovirus-transfected insect cells with very high levels of catalytic activities (typically 6-fold higher than an average HLM sample). This is ideal for screening high throughput drug interactions, studying slowly metabolized chemicals, or manufacturing large-scale production of metabolites for structural identification.

Corning offers more than 40 different human and animal P450 isoforms, many with or without NADPH reductase. Additionally, Corning offers wide range of non-P450 metabolic enzymes, including UDP-glucuronosyl transferases (UGTs), flavin-containing monooxygenases (FMOs), monoamine oxidases (MAOs), soluble N-Acetyltransferases (NATs), and carboxylesterases (CESs). For many of the recombinant enzyme products, side-by-side comparisons of the catalytic activity with pooled human liver microsomes (HLMs) have been performed and the data are available by email ScientificSupport@corning.com.

Key Benefits

- Wide-range selection of high quality metabolism enzymes
- Higher catalytic activities than the native enzymes from human liver and other organs, with comparable K_m
- Accepted industry gold standard recombinant enzyme system, with large number of peer-reviewed publications
- Preferred enzymes for generating data to use with the Simcyp computational model
- Supports essential assays such as reaction phenotyping, metabolic stability, and enzyme inhibition required for FDA new drug registration and other pharmacokinetic studies that are appropriate for evaluating pro-drugs and CYP or non-CYP pathways of elimination.

Corning Supersomes Metabolic Enzymes

Human P450 Enzymes

Cat. No.	Description	P450 Content (nmol)	Qty (mL)
456211	Human CYP1A1 + reductase	0.5	0.5
456203	Human CYP1A2 + reductase	0.5	0.5
456220	Human CYP1B1 + reductase	0.5	0.5
456204	Human CYP2A6 + reductase	1	0.5
456254	Human CYP2A6 + reductase + b_5	0.5	0.5
456210	Human CYP2B6 + reductase	0.5	0.5
456255	Human CYP2B6 + reductase + b_5	0.5	0.5
456222	Human CYP2C18 + reductase	0.5	0.5
456219	Human CYP2C19 + reductase	0.5	0.5
456259	Human CYP2C19 + reductase + b_5	0.5	0.5
456212	Human CYP2C8 + reductase	1	0.5
456252	Human CYP2C8 + reductase + b_5	0.5	0.5
456218	Human CYP2C9*1 (Arg_{144}) + reductase	1	0.5
456258	Human CYP2C9*1 (Arg_{144}) + reductase + b_5	0.5	0.5
456209	Human CYP2C9*2 (Cys144) + reductase allelic variant	1	0.5
456242	Human CYP2C9*3 (Leu359) + reductase allelic variant	1	0.5
456217	Human CYP2D6*1 (Val_{374}) + reductase	0.5	0.5
456206	Human CYP2E1 + reductase + b_5	1	0.5
456264	Human CYP2J2 + reductase + b_5	0.5	0.5
456207	Human CYP3A4 + reductase	1	0.5
456202	Human CYP3A4 + reductase + b_5	0.5	0.5
456235	Human CYP3A5 + reductase	1	0.5
456256	Human CYP3A5 + reductase + b_5	0.5	0.5

Human P450 Enzymes (Continued)

Cat. No.	Description	P450 Content (nmol)	Qty (mL)
456237	Human CYP3A7 + reductase + b_5	0.5	0.5
456221	Human CYP4A11 + reductase	0.5	0.5
456272	Human CYP4F2 + reductase + b_5	0.5	0.5
456273	Human CYP4F3A + reductase + b_5	0.25	0.5
456274	Human CYP4F3B + reductase + b_5	0.5	0.5
456275	Human CYP4F12 + reductase + b_5	0.5	0.5
456260	Human CYP19 (aromatase) + reductase	0.5	0.5

Human UGT Enzymes

Cat. No.	Description	Protein Concentration (mg/mL)	Qty (mL)
456400	UGT control microsomes	5	0.5
456411	Human UGT 1A1	5	0.5
456413	Human UGT 1A3	5	0.5
456414	Human UGT 1A4	5	0.5
456416	Human UGT 1A6	5	0.5
456407	Human UGT 1A7	5	0.5
456418	Human UGT 1A8	5	0.5
456419	Human UGT 1A9	5	0.5
456410	Human UGT 1A10	5	0.5
456424	Human UGT 2B4	5	0.5
456427	Human UGT 2B7	5	0.5
453323	Human UGT 2B10	5	0.5
456435	Human UGT 2B15	5	0.5
456437	Human UGT 2B17	5	0.5

UGT = UDP-glucuronosyl transferases

Other Human Metabolic Enzymes

453320	Human CES1b	5	0.5
453321	Human CES1c	5	0.5
453322	Human CES2	5	0.5
456241	Human FMO1	5	0.5
456233	Human FMO3	5	0.5
456245	Human FMO5	5	0.5
456280	Monoamine Oxidase (MAO) Control	5	0.5
456283	Human Monoamine Oxidase A (MAO-A)	5	0.5
456284	Human Monoamine Oxidase B (MAO-B)	5	0.5
456199	Insect cell Cytosol (for use with all NAT Corning® Supersomes™ enzymes)	2.5	0.5
456281	Human NAT1 Cytosol	2.5	0.5
456282	Human NAT2 Cytosol	2.5	0.5

FMO = Flavin-containing monooxygenase, NAT = N-acetyltransferases.

Rat P450 Enzymes

Cat. No.	Description	P450 Content (nmol)	Qty (mL)
456514	Rat P450 reductase control baculovirus-insert cell-expressed (BTI-TN-5B1-4 cells)	0.5 mL	0.5
456511	Rat CYP1A1 + reductase	1.0 nmol	0.5
456503	Rat CYP1A2 + reductase	0.5 nmol	0.5
456519	Rat CYP2A1 + reductase + b_5	0.5 nmol	0.5
456505	Rat CYP2A2 + reductase + b_5	0.5 nmol	0.5
456510	Rat CYP2B1 + reductase + b_5	0.5 nmol	0.5
456536	Rat CYP2C6 + reductase + b_5	0.5 nmol	0.5
456531	Rat CYP2C11 + reductase + b_5	0.5 nmol	0.5
456532	Rat CYP2C12 + reductase + b_5	0.5 nmol	0.5
456533	Rat CYP2C13 + reductase + b_5	0.5 nmol	0.5
456517	Rat CYP2D1 + reductase	0.5 nmol	0.5
456513	Rat CYP2D2 + reductase	0.5 nmol	0.5
456521	Rat CYP2E1 + reductase + b_5	0.5 nmol	0.5
456501	Rat CYP3A1 + reductase + b_5	0.5 nmol	0.5
456502	Rat CYP3A2 + reductase + b_5	0.5 nmol	0.5
Dog P450 Enzymes			
456621	Dog CYP2C21+ reductase + b_5	0.5 nmol	0.5
456612	Dog CYP3A12 + reductase + b_5	0.5 nmol	0.5

Controls, Cofactors, and Buffers

Enzyme Controls

Analysis of cytochrome P450 form specific metabolism requires use of the appropriate control preparation in order to eliminate the possibility of metabolism by enzymes native to the cell lines. Corning Life Sciences prepares control microsomes and cytosols using procedures identical to those used to prepare other microsomal products.

For P450 enzymes, control microsomes are available from both Sf9 and High Five (Hi5 or BTI-TN-5B1-4) insect cell preparations. All insect cell control microsomes are prepared from insect cells infected with wild-type baculovirus. Control preparations are also available for UGT, MAO, NAT, and CES Corning® Supersomes™ enzymes products.

Normalization of Protein Concentration

Differences in total protein concentration can affect the free concentration of substrate and hence enzyme kinetics. The available substrate concentration may be significantly lower than initially assumed for those substrates which have a large potential to bind nonspecifically to protein (J. Pharmacol. Exp. Ther. 283:46 [1997]; Drug Metab. Dispos. 25:1359 [1997]). Total protein concentration can be controlled and normalized in each incubation by the addition of control microsomes.

NADPH Regenerating System

NADPH is a necessary cofactor in many xenobiotic metabolism reactions. NADPH is required for the measurement of oxidase activity catalyzed by P450s, FMOs, NADPH-P450 OR, and many other oxidase enzymes. A common source of NADPH in an oxidase enzyme assay is an NADPH regenerating system which generates NADPH *in situ* using an enzymatic reaction. For example, glucose-6-phosphate dehydrogenase (G6PDH) will convert NADP+ to NADPH in the presence of the substrate glucose-6-phosphate (Glc-6-PO4).

The Corning Gentest™ NADPH regenerating system consists of two reagents, Solution A (NADP+ and Glc-6-PO4) and Solution B (G6PDH). Each reagent is sold separately. Combined, these two reagents form a NADPH regenerating system that can be used for all NADPH requiring oxidase assays (cDNA-expressed enzymes and liver fractions). At least 200 to 400 enzyme assays can be performed using one vial each of Solution A and B. The total number of assays that can be performed is dependent on a researcher's experimental design.

Corning® Supersomes™ Enzymes Controls

Cat. No.	Description	Protein Concentration (mg/mL)	Qty (mL)
456200	Insect cell control for Corning Supersomes enzymes baculovirus-insect cell-expressed (BTI-TN-5B1-4 cells)	5	1.5
456201	Insect cell control for Corning Supersomes enzymes baculovirus-insect cell-expressed (BTI-TN-5B1-4 cells)	5	0.5
456199	Insect cell cytosol control	2.5	0.5
456299	Sf9 insect control for Corning Supersomes enzymes baculovirus-insect cell-expressed	5	0.5
456400	Human UGT Insect Control for Corning Supersomes enzymes	5	0.5
456280	MAO Insect Control for Corning Supersomes enzymes	5	0.5
456244	Human P450 reductase and b_5 control for baculovirus expressed (BTI-TN-5B1-4 cells)	5	0.5
456514	Rat P450 reductase control for baculovirus-insert cell-expressed (BTI-TN-5B1-4 cells)	5	0.5

Cofactors

Cat. No.	Description	Qty (mL)
451220	NADPH Regenerating system – Solution A ($NADP^+$ and Glc-6-PO_4)	5
451200	NADPH Regenerating system – Solution B (G6PDH)	1
451300	UGT Reaction mix – Solution A	2
451320	UGT Reaction mix – Solution B	5

Buffers

451201	Phosphate buffer (pH 7.4)	500

HTS P450 INHIBITION KITS

Corning® Gentest™ Human P450 Inhibition Screening Kits

Microplate-based, fluorometric assays for the activities of important P450 drug metabolizing enzymes have been developed by Corning, including CYP1A2, 2C9, 2C19, 2D6, 3A4, and others, and applied to inhibition analysis. The IC_{50} or percent inhibition at a given substrate concentration can be calculated and used as a basis for comparison among a series of tested compounds.

Corning Gentest P450 high throughput screening kits are designed to rapidly screen for potential inhibitors of cytochrome P450 catalytic activity. Each kit provides all the necessary components and instructions for measuring the IC_{50} value for up to 38 test compounds in 96-well plates. These kits can accommodate other plate formats, e.g., 384-well and 1536-well, with proper scaling.

Each Corning Gentest P450 inhibition screening kit includes the following components:

- Corning Supersomes™ enzymes (recombinant human P450)
- Fluorescent P450 substrate
- Positive control inhibitor
- Metabolite standard
- NADPH regenerating system
- Reaction buffer
- Stop buffer
- Control membrane protein
- Instruction manual

Stability

Corning Gentest P450 inhibition screening kits have been tested through 10 freeze-thaw cycles without a change in IC_{50} values for the included substrates or a significant low in signal-to-noise ratios.

Cat. No.	P450 Enzyme	Substrate	Positive Control Inhibitor	Fluorescent Standard	Qty*
459500	CYP1A2	CEC	Furafylline	CHC	1 kit
459420	CYP2A6	Coumarin	Trancyclopromine	7-HC	1 kit
459220	CYP2B6	EFC	Trancyclopromine	HFC	1 kit
459320	CYP2C8	DBF	Quercetin	Fluorescein	1 kit
459300	CYP2C9	MFC	Sulfaphenazole	HFC	1 kit
459400	CYP2C19	CEC	Trancyclopromine	CHC	1 kit
459200	CYP2D6	AMMC	Quinidine	AHMC	1 kit
459100	CYP3A4	BFC	Ketoconazole	HFC	1 kit
459110	CYP3A4	BQ	Ketoconazole	7-HQ	1 kit
459120	CYP3A4	DBF	Ketoconazole	Fluorescein	1 kit
459520	CYP19	MFC	Ketoconazole	HFC	1 kit

*Please inquire about bulk packaging.

BFC = 7-benzyloxy-4-trifluoromethylcoumarin, EFC = 7-ethoxy-4-trifluoromethylcoumarin, BQ = 7-benzyloxyquinoline, DBF = dibenzylfluorescein, AMMC = 3-[2-(N,N-diethyl-N-methylamino) ethyl]-7-methoxy-4-methylcoumarin, CEC = 7-ethoxy-3-cyanocoumarin, MFC = 7 methoxy 4 trifluoromethylcoumarin, HFC = 7-hydroxy-4-trifluoromethylcoumarin, CHC = 3-cyano-7-hydroxycoumarin, AHMC = 3-[2-(N, N-diethyl-N-methylamino)ethyl]-7-hydroxy-4-methylcoumarin, 7-HC = 7-hydroxycoumarin.

CHEMICAL SUBSTRATES, INHIBITORS, METABOLITE STANDARDS, AND SOLUTIONS

Corning® Gentest™ chemicals are high quality products and are validated in ADME applications with Corning Supersomes™ enzymes, tissue fractions, and primary hepatocytes.

Stable Isotope Standards for use with Mass Spectrometry

Cat. No.	Description	CAS#	CYP/UGT Application	Qty (mg)
451001	Acetamidophenol-[13C2,15N]	103-90-2	Internal metabolite standard CYP1A2	1
451002	7-Hydroxycoumarin-[D5]	93-35-6	Internal metabolite standard CYP2A6	1
451003	Hydroxybupropion-[D6]	N/A	Internal metabolite Standard CYP2B6	1
451004	Desethylamodiaquine-[D3]	79352-78-6	Internal metabolite standard CYP2C8	1
451048	6α-Hydroxypaclitaxel-[D5]	153212-75-0	Internal metabolite standard CYP2C8	1
451005	Hydroxytolbutamide-[D9]	5719-85-7	Internal metabolite standard CYP2C9	1
451006	4-Hydroxydiclofenac-[13C6]	64118-84-9	Internal metabolite standard CYP2C9	1
451007	4-Hydroxymephenytoin-[D3]	61837-65-8	Internal metabolite standard CYP2C19	1
451008	Dextrorphan-[D3]	25-73-5	Internal metabolite standard CYP2D6	1
451040	1-Hydroxybufuralol Maleate-[D9]	57704-16-2	Internal metabolite standard CYP2D6	1
451010	1'-Hydroxymidazolam-[13C3]	59468-90-5	Internal metabolite standard CYP3A4	1
451011	Oxidized Nifedipine-[D12]	67035-22-7	Internal metabolite standard CYP3A4	1
451009	6β-Hydroxytestosterone-[D7]	62-99-7	Internal metabolite standard CYP3A4	1
451046	Acetaminophen-glucuronide-[D3]	120595-80-4	Internal metabolite standard UGT1A1, UGT1A6, UGT1A9	1

Fluorescent-labeled Substrates, Metabolites, and Inhibitors

Cat. No.	Description	CAS#	CYP/MFC/BFC/BQ Application	Qty (mg)
451015	3-Cyano-7-hydroxycoumarin (CHC)	19088-73-4	Fluorescent metabolite standard CYP1A2 and CYP2C19	5
451014	3-Cyano-7-ethoxycoumarin (CEC)	117620-77-6	Fluorescent substrate CYP1A2 and CYP2C19	5
451740	7-Methoxy-4-(trifluoromethyl)-coumarin (MFC)	575-04-2	Fluorescent CYP2C9, CYP2C19, and CYP2E1 substrate	5
451745	7-Methoxy-4-(trifluoromethyl)-coumarin (MFC)	575-04-2	Fluorescent CYP2C9, CYP2C19, and CYP2E1 substrate	25
451700	AMMC	N/A	Fluorescent CYP2D6 substrate	5
451705	AMMC	N/A	Fluorescent CYP2D6 substrate	25
451701	AHMC	15776-59-7	AMMC metabolite CYP2D6 standard	5
451750	Dibenzylfluorescein (DBF)	97744-44-0	Fluorescent CYP3A4 and CYP2C8 substrate	5
451755	Dibenzylfluorescein (DBF)	97744-44-0	Fluorescent CYP3A4 and CYP2C8 substrate	25
451720	7-Benzyloxyquinoline (7-BQ)	131802-60-3	Fluorescent CYP3A4 substrate	5
451725	7-Benzyloxyquinoline (7-BQ)	131802-60-3	Fluorescent CYP3A4 substrate	25
451730	7-Benzyloxy-4-(trifluoromethyl)-coumarin (BFC)	N/A	Fluorescent CYP3A4 substrate	5
451735	7-Benzyloxy-4-(trifluoromethyl)-coumarin (BFC)	N/A	Fluorescent CYP3A4 substrate	25
451731	7-Hydroxy-4-(trifluoromethyl)-coumarin (HFC)	575-03-1	Metabolite standard for MFC, BFC	5
451721	7-Hydroxyquinoline	580-20-1	Metabolite standard for BQ	5

Unlabeled Substrates, Metabolites, and Inhibitors

Cat. No.	Description	CAS#	CYP Application	Qty
451037	Furafylline	80288-49-9	Mechanism-based inhibitor CYP1A2	5 mg
451710	Bupropion Hydrochloride	31677-93-7	Substrate CYP2B6	25 mg
451711	Hydroxybupropion	N/A	Metabolite standard CYP2B6	5 mg
451782	Desethylamodiaquine	79352-78-6	Metabolite standard CYP2C8	5 mg
451656	6α-Hydroxypaclitaxel	N/A	Metabolite standard CYP2C8	10 nmol
451019	Sulfaphenazole	526-08-9	Competitive inhibitor CYP2C9	5 mg
451000	Tienilic Acid (Ticrynafen)	40180-04-9	Mechanism-based inhibitor CYP2C9	5 mg
451743	4'-Hydroxydiclofenac	94118-84-9	Metabolite standard CYP2C9	5 mg
451780	Tienilic-3C-alcohol	N/A	Substrate CYP2C18	5 mg
451032	S-Mephenytoin	70989-04-7	Substrate CYP2C19	5 mg
451795	(S)-(+)-N-3-Benzylnirvanol	N/A	Competitive inhibitor CYP2C19	5 mg
451033	4'-Hydroxymephenytoin	61837-65-8	Metabolite standard CYP2C19	5 mg
451034	Bufuralol HCL	59652-29-8	Substrate CYP2D6	5 mg
451030	Dextrorphan-D-Tartrate	143-98-6	Metabolite standard CYP2D6	5 mg
451035	1-Hydroxybufuralol Maleate	57704-16-2	Metabolite standard CYP2D6	5 mg
451036	6-Hydroxychlorzoxazone	1750-45-4	Metabolite standard CYP2E1	5 mg
451785	Azamulin	76530-44-4	Mechanism-based inhibitor CYP3A4	5 mg
451023	Ketoconazole	65277-42-1	Mixed-type inhibitor CYP3A4	5 mg
451028	Midazolam	59467-70-8	Substrate CYP3A4	5 mg
451020	Oxidized Nifedipine	67035-22-7	Metabolite standard CYP3A4	5 mg
451630	p-3'-Hydroxypaclitaxel	132160-32-8	Metabolite standard CYP3A4	20 nmol
451038	1'-Hydroxymidazolam	59468-90-5	Metabolite standard CYP3A4	5 mg
451029	4-Hydroxymidazolam	59468-85-8	Metabolite standard CYP3A4	5 mg
451012	6β-Hydroxytestosterone	62-99-7	Metabolite standard CYP3A4	5 mg
451022	7-Hydroxycoumarin Glucuronide (Umbelliferone Glucuronide)	N/A	Metabolite standard UGT	5 mg
451024	7-Hydroxycoumarin Sulfate, K^+ salt	N/A	Metabolite standard SULTs	5 mg
451025	Terfenadine Alcohol Metabolite	N/A	Substrate CYP2J2, CYP4F12, and CYP3A4	5 mg

TISSUE FRACTIONS

Tissue fractions from human and animal livers represent an important tool in preclinical metabolism studies for predicting the toxicity and pharmacokinetic properties of a drug compound. Liver microsomes from humans and animal species play an important role in evaluating drug compounds for metabolic stability, reactive metabolites, drug-drug interactions, reaction phenotyping, and metabolite identification.

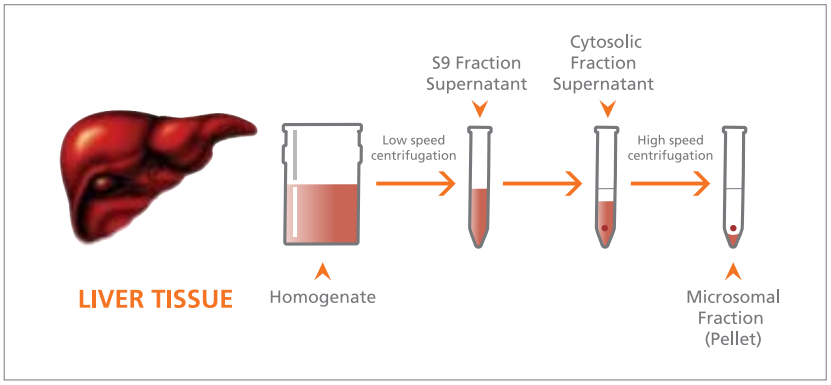
For years, Corning has been a trusted provider of a wide range of high-quality tissue fractions, including liver and intestinal microsomes, as well as ancillary products (e.g., cofactors, chemical substrates, metabolites, and inhibitors) necessary to perform metabolism-based assays.

Corning® Gentest™ microsomes, cytosol, and S9 subcellular fractions provide a convenient, cost-effective source of native enzymes responsible for phase I and phase II metabolism of drugs. These enzymes include cytochrome P450 enzymes (CYP), UDP-glucuronosyl transferases (UGT), and flavin-containing monooxygenase (FMO). As part of Corning Life Sciences' on-going commitment to bringing innovative tools to life scientists and emerging areas of ADME/Tox research, Corning added a large donor pool of human liver microsomes (HLMs), the Corning UltraPool™ HLM 150, to the Corning portfolio of human liver microsomes. This large donor pool better represents the average patient population and known CYP polymorphisms, enabling consistent experimental results in multi-year programs, and offering a time savings by reducing the time required qualifying new lots of HLMs.

Corning Gentest allelic variant HLM panels are genotyped single donors designed to help address the growing concerns over drug safety for all patients including outlier population with polymorphorphic gene (CYPs, UGTs, etc.). Genetic polymorphisms exist for many drugs as most P450s have been shown to possess mutant alleles. Polymorphisms may also explain some idiosyncratic reactions. We have prepared panels where the 1% of the population has a genetic polymorphism with a CYP or UGT defect. Genotype allelic variant panels are available for CYP2C8, 2C9, 2C19, 2D6, 3A5, and UGT1A1.

Many steps are taken during the manufacture of all Corning Gentest tissue fraction products to reduce lot-to-lot variability and to ensure reproducibility. Complete assay results and donor information are provided on the product insert. Contact CLSscientificsupport@corning.com to obtain up-to-date single donor information.

Note: All human tissues are prepared from donors who tested negative serologically for HIV-1, HIV-2, HTLV-1, HTLV-2, HBV, HCV, and syphilis. All tissues are subsequently tested for the same pathogens by PCR.



Overview of the manufacturing workflow

Human Liver Microsome Tissue Fraction Products

Corning® Gentest™ Human Mixed Pooled Microsomes, Cytosol, and S9

Cat. No.	Description	Protein Concentration (mg/mL)	Qty/Pk
452117	Mixed gender Corning UltraPool 150-donor HLM (equal mix of male and female donors)	20	0.5 mL
452118	Mixed gender Corning UltraPool 150-donor HLM (80 vials of 452117 packaged in an easy-count box)	20	80 vials
452116	Mixed gender Corning UltraPool 150-donor S9	20	1.0 mL
452115	Mixed gender Corning UltraPool 150-donor Cytosol	20	1.0 mL
452156	Mixed gender pooled 50-donor HLM (equal mix of male and female donors)	20	0.5 mL
452227	Human 50-donor tissue fraction kit (Includes 1 vial each of HLM, S9, and Cytosol prepared from the same 50 donors)	20	1 kit
452161	Mixed gender HLM mixed pooled (approx. 20 donors)	20	0.5 mL
452155	Mixed HLMs packaged in an easy-count box (80 vials of 452161) (approx. 20 donors)	20	80 vials
452961	Mixed gender pooled 20-donor S9	20	1 mL

Corning Gentest Human Pooled Specialty Products

452165	Mixed gender pooled CMV negative HLM	20	0.5 mL
452172	Pooled male HLM	20	0.5 mL
452183	Pooled female HLM	20	0.5 mL
452210	Mixed gender pooled intestinal microsomes	10	0.2 mL

Corning Gentest Human Individual Liver Microsomes Panel

Cat. No.	Description	Protein Concentration (mg/mL)	Qty/Pk
452138	P450 single donor HLM panel High/low P450 single donor HLM panel	20	0.5 mL

The most current list of donors can be found at **www.corning.com/lifesciences/admetox**.

Corning Gentest Individual Allelic Variant Donor Panels

452141	CYP2D6(*3-*8) PM‡	20	0.5 mL
452142	CYP2C9(*2*2), (*2*3), and (*3*3)	20	0.5 mL
452143	CYP2C19(*2-*5) PM‡	20	0.5 mL
452144	CYP2C8(*3*3)	20	0.5 mL
452135	CYP3A5(*1*1) high expresser	20	0.5 mL
452136	CYP3A5(*1*3) high expresser	20	0.5 mL
452137	CYP3A5(*3*3) wild-type low expresser	20	0.5 mL
452132	UGT1A1(*28*28) low expresser	20	0.5 mL
452133	UGT1A1(*1*28) moderate expresser	20	0.5 mL
452134	UGT1A1(*1*1) wild-type high expresser	20	0.5 mL

‡Poor Metabolizer.

Note: Orders must include donor lot number as well as catalog number. Each lot number corresponds with a specific donor. To view an up-to-date listing of donors with donor demographics, donor history, and characterization data, visit **www.corning.com/lifesciences/admetox**.

Animal Liver Tissue Fraction Products

Corning Gentest Animal Pooled Liver Microsomes

Cat. No.	Description	Protein Concentration (mg/mL)	Qty (mL)
Rat Liver Microsomes			
452501	Sprague-Dawley, male	20	0.5 mL
452502	Sprague-Dawley, female	20	0.5 mL
452511	Wistar Han, male	20	0.5 mL
452521	Fischer 344, male	20	0.5 mL
452522	Fischer 344, female	20	0.5 mL
Mouse Liver Microsomes			
452220	B6C3F1, male	20	0.5 mL
452701	CD-1, male	20	0.5 mL
452702	CD-1, female	20	0.5 mL
Dog Liver Microsomes			
452601	Beagle, male	20	0.5 mL
452602	Beagle, female	20	0.5 mL
Monkey Liver Microsomes			
452413	Cynomolgus, male	20	0.5 mL
452411	Cynomolgus, female, export	20	0.5 mL
452424	Rhesus, male	20	0.5 mL
452340	Marmoset, male	20	0.5 mL
452341	Marmoset, female	20	0.5 mL
Guinea Pig Liver Microsomes			
452311	Dunkin Hartley, male	20	0.5 mL
452313	Dunkin Hartley, female	20	0.5 mL
Mini-Pig Liver Microsomes			
452322	Gottigen, male	20	0.5 mL
Rabbit Liver Microsomes			
452201	New Zealand white, male	20	0.5 mL

Hazard Warning: Monkey tissue fractions are prepared from freshly frozen tissues. These materials are tested and found negative for Herpes B and SIV. It is recommended this material be considered a potential biohazard.

Corning® Gentest™ Animal Pooled Liver S9

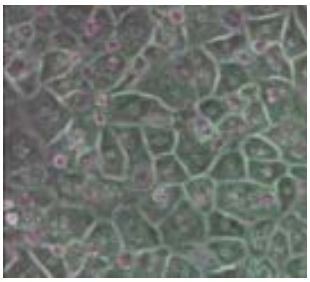
Cat. No.	Description	Protein Concentration (mg/mL)	Qty (mL)
Rat Liver S9			
452591	Sprague-Dawley, male	20	1.0
452593	Fischer 344, male	20	1.0
452594	Fischer 344, female	20	1.0
Mouse Liver S9			
452791	CD-1, male	20	1.0
452792	CD-1, female	20	1.0
Dog Liver S9			
452693	Beagle, male	20	1.0
Monkey Liver S9			
452494	Cynomolgus, male	20	1.0
452492	Cynomolgus, female, export	20	1.0
452473	Rhesus, male	20	1.0

Corning Gentest Animal Liver Cytosol

Rat Liver Cytosol			
452581 (male)	Sprague-Dawley, male	20	1.0
Monkey Liver Cytosol			
452461 (male)	Cynomolgus, male	20	1.0
452462 (female)	Cynomolgus, female	20	1.0

Hazard Warning: Monkey tissue fractions are prepared from freshly frozen tissues. These materials are tested and found negative for Herpes B and SIV. It is recommended this material be considered a potential biohazard.

PRIMARY HEPATOCYTE CELLS



Corning provides both fresh and cryopreserved hepatocytes to support major applications in drug and xenobiotic biotransformation, including plateable hepatocytes for P450 induction, plateable and suspension hepatocytes for drug metabolism, and SLC uptake transport.

Corning uses the latest technology available for cryopreservation procedures. These procedures provide high viability of human and animal hepatocytes after thaws. However, prior to using Corning® Gentest™ cryopreserved hepatocytes, it is recommended to use a purification method to remove the cryopreservation reagents. After purification, plateable hepatocyte can be cultured on Corning Collagen or Corning Matrigel® matrix-coated surfaces. Corning BioCoat™ Collagen I cultureware and Corning Matrigel matrix cultureware are TC-treated vessels with a uniform application of rat tail Collagen type I or Matrigel matrix, respectively. These cultureware are manufactured in a highly controlled environment and rigorously tested to assure product consistency and performance.

Corning Gentest Human Fresh Hepatocytes

Corning Gentest human fresh hepatocytes have been characterized for phase I and phase II enzyme activity (refer to technical information) and are available as vialed suspension preparations, as well as plated in Corning hepatocyte culture media on Corning BioCoat™ Multiwell plates and flasks. Corning Gentest human hepatocytes are couriered in an exclusive Falcon® flip-lock packaging to ensure best performance and viability upon arrival without the use of irritating film membranes, gel stabilizers, or preservatives that can interfere with your research.

Note: Fresh hepatocyte products are available only in the United States.

- **Maximum performance** – shipped in Corning hepatocyte culture media on Corning BioCoat multiwell plates and flasks for maximal performance. Also, available in suspension.
- **Rapid response** – as soon as we have donor tissue, you will be notified instantly, as per your instructions.
- **Each lot couriered directly to you** – state-of-the-art packaging and delivery ensures your cells will get to you as fast as possible and in good condition.
- **Satisfaction guaranteed** – if you are not satisfied with any lot for any reason, we will replace it with the next available lot.
- The confluency of monolayers for these fresh hepatocyte products are >85% by visual inspection prior to shipping. All products tested for CYP3A4 activity with 6β-testosterone hydroxylase assay.

Human Fresh Hepatocytes in Suspension

Cat. No.	Description	Qty/Pk
454401	10 million cells minimum order	1 million cells/vial

Human Fresh Plated Hepatocytes on Corning BioCoat Collagen I Microplates

454406	6-well	1 plate
454412	12-well	1 plate
454424	24-well	1 plate
454425	48-well	1 plate
454496	96-well	1 plate

Human Fresh Hepatocytes on Corning BioCoat Collagen I Microplates with Corning Matrigel Matrix Overlay

454480	6-well	1 plate
454481	12-well	1 plate
454482	24-well	1 plate
454483	48-well	1 plate
454484	96-well	1 plate

All human tissues are prepared from donors who tested negative serologically for HIV-1, HIV-2, HTLV-1, HTLV- 2, HBV, HCV, and syphilis. All tissues are subsequently tested for the same pathogens by PCR.

Corning® Gentest™ Human CryoHepatocytes

Corning offers both plateable and suspension cryopreserved human hepatocytes. Each lot is pre-screened and characterized for activities that are suitable for ADME applications, such as drug metabolism, CYP induction, drug transport, and toxicity studies. Some lots may be suitable for multiple applications. These characterizations provide researchers with the data necessary to select lots which are well-suited to their research needs. For activities and donor demographic information, please contact ScientificSupport@corning.com.

Cat. No.	Description	Size	Qty/Pk
454541	Corning Gentest plateable transporter-qualified human cryohepatocytes	≥5 million cells	1.5 mL
454543	Corning Gentest Plateable Metabolism-qualified human cryohepatocytes	≥5 million cells	1.5 mL
454550	Corning Gentest inducible-qualified human cryohepatocytes*	2-5 million cells	1.5 mL
454551	Corning Gentest inducible-qualified human cryohepatocytes*	≥5 million cells	1.5 mL
454426	Corning Gentest SLC transporter-qualified human cryohepatocytes in suspension	2-5 million cells	1.5 mL
454427	Corning Gentest SLC transporter-qualified human cryohepatocytes in suspension	≥5 million cells	1.5 mL
454503	Corning Gentest metabolism-qualified human cryohepatocytes in suspension	2-5 million cells	1.5 mL
454504	Corning Gentest metabolism-qualified human cryohepatocytes in suspension	≥5 million cells	1.5 mL
454460	Corning Gentest Hepatocyte Transporter Suspension Assay Kit Kit contains a detailed transporter uptake protocol, 10 mL 100 tests of filtration oil, and 100 easy-to-cut centrifuge tubes	–	100 tests

*Contact us about P450 induction study contract services at 888.334.5229 x2246 or 781.935.5115 x2246.

Corning Gentest Animal CryoHepatocytes

Corning Gentest cryopreserved animal hepatocytes allow researchers to study toxicological and pharmacokinetic properties of new chemical entities (NCEs) *in vitro* prior to expensive *in vivo* animal testing. Understanding species differences in metabolism is critical to selecting appropriate preclinical species for toxicity and pharmacokinetic studies. Corning Gentest animal cryohepatocytes are suitable for use in metabolic stability, metabolite profiling, and cytotoxicity studies.

- **Convenience** – animal cryopreserved hepatocytes for rat, mouse, dog, and monkey are available as cryopreserved vialed suspension cells; just thaw and perform studies when needed
- **Full characterization** – tested for high viability and phase I and II metabolic enzymes
- **Easy cell purification** – quickly purify from the cryoprotectant and non-viable cells when using the Corning Gentest cryohepatocyte purification kit (Cat. No. 454534)

Rat CryoHepatocytes

Cat. No.	Description	Cell Quantity	Qty (mL)
454701	Sprague-Dawley, male	≥5 million cells	1.5
454703	Sprague-Dawley, female	≥5 million cells	1.5
Mouse CryoHepatocytes			
454310	CD-1, male	≥2 million cells	1.5
Dog CryoHepatocytes			
454830	Beagle, male	≥4 million cells	1.5
Monkey CryoHepatocytes			
454930	Cynomolgus, male	≥5 million cells	1.5

Hazard Warning: Monkey tissue fractions are prepared from freshly frozen tissues. These materials are tested and found negative for Herpes B and SIV. It is recommended this material be considered a potential biohazard.

Related Products for Hepatocyte Culture

Cat. No.	Description	Qty
454534	Corning® Gentest™ high viability cryohepatocyte recovery kit Platable human cryopreserved hepatocyte recovery and plating medium. Kit contains 2X tubes (45 mL each) recovery media, 2X tubes (45 mL each) plating media.	1 kit
454560	Corning Gentest high viability cryohepatocyte recovery medium	45 mL
454561	Corning Gentest cryohepatocyte plating medium	45 mL
454600	Corning Gentest cryohepatocyte one-step purification kit Each kit allows for the purification of four individual 1.5 mL cryotubes. Use for fast and easy purification.	1 kit
355056	Corning hepatocyte culture media kit 500 mL plus EGF supplement. Use for serum-free medium to maintain hepatocyte cultures *in vitro*; commonly used to culture plated human fresh or cryopreserved hepatocytes on Corning BioCoat™ rat tail Collagen I Multiwell plates and flasks.	500 mL
454460	Corning Gentest hepatocyte transporter suspension assay kit Kit includes a detailed transporter uptake protocol, 10 mL of filtration oil, and 100 easy-to-cut centrifuge tubes.	100 tests
40-550-CV*	Corning hepatocyte maintenance medium Maintains the physiological relationships between hepatic Phase I and II drug metabolism enzymes, influx and efflux transporters, while meeting the long-term high metabolic needs of hepatocytes. Defined, animal-origin free, serum-free, and optimized for primary human hepatocytes.	500 mL

*Produced by Mediatech, Inc., a Corning subsidiary. To order, go to **www.corning.com/lifesciences/media**.

Other Related Products for Hepatocyte Culture

- Corning BioCoat Poly-D-Lysine cultureware
- Corning BioCoat Matrigel® matrix cultureware
- Corning BioCoat rat tail Collagen I cultureware
- Corning Matrigel basement membrane matrix

For more information on products for hepatocyte culture, see the **Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts** section of this catalog.

HepatoLink

Important Ordering Information

HepatoLink® is the Corning Life Sciences immediate response system providing researchers with instant notification when Corning Gentest hepatocyte products are available. For your convenience, select a preferred contact method—email, phone, and/or SMS text alerts. Upon registration, you will be sent donor characterization data when a new lot becomes available. You can register online at **www.corning.com/lifesciences/hepatolink**. Place your order directly through Corning's online system. If you have any questions regarding Corning's program or your participation, please contact us at **978.442.2200** or email **hepatocytes@corning.com**.

All Corning Gentest fresh and cryohepatocyte orders must be lot specific. Each lot number corresponds with a specific donor and must be included with your order. An up-to-date listing of Corning Gentest human fresh and cryohepatocyte donors with donor demographics, donor history, and characterization data is maintained at **www.corning.com/lifesciences/admetox**.

ANTIBODIES FOR METABOLIC ENZYMES

Corning offers many monoclonal and polyclonal antibodies for use in P450s and UGT studies. The antibodies have been qualified for use in western blotting or inhibition studies.

Cat. No.	Description	Recommended Dilution	Preparation	Immunogen	Application Use	Qty (µL)
For P450s						
458312	IH-MAB-1A2, Anti-human CYP1A2	N/A	Mouse monoclonal	Human CYP1A2	Human CYP1A2 detection by immunoinhibition	400
458106	IH-WB-MAB-2A6, Anti-human CYP2A6	1:500 with alkaline phosphatase secondary or chemiluminescence detection	Mouse monoclonal	CYP2A purified from rat liver	Human CYP2A6 detection by immunoblot, human CYP2A6 detection by immunoinhibition	400
458211	WB-1B1, Anti-human CYP1B1 serum	1:500 with enhanced chemiluminescense detection	Rabbit polyclonal	Peptide	Human CYP1B1 detection by immunoblot	400
458326	IH-MAB-2B6, Anti-human CYP2B6	N/A	Mouse monoclonal	Human CYP2B6	Human CYP2B6 detection by immunoinhibition	400
458226	WB-2B6, Anti-human CYP2B6 serum	1:500 with enhanced chemiluminescense detection	Rabbit polyclonal	Peptide	Human CYPB6 detection by immunoblot	400
458328	IH-MAB-2C8, Anti-human CYP2C8	N/A	Mouse monoclonal	Human CYP2C8	Human CYP2C8 detection by immunoinhibition	400
458209	WB-2C9, Anti-human CYP2C9 serum	1:500 with enhanced chemiluminescense detection	Rabbit polyclonal	Peptide	Human CYP2C9 detection by immunoblot	400
458319	IH-MAB-2C19, Anti-human CYP2C19	N/A	Mouse monoclonal	Human CYP2C19	Human CYP2C19 detection by immunoinhibition	400
458219	WB-2C19, Anti-human CYP2C19 serum	1:333 with enhanced chemiluminescense detection	Rabbit polyclonal	Peptide	Human CYP2C19 detection by immunoblot	400
458366	IH-MAB-2D6, Anti-human CYP2D6	N/A	Mouse monoclonal	Human CYP2D6	Human CYP2D6 detection by immunoinhibition	400
458246	WB-MAB-2D6, Anti-human CYP2D6	1:500 with alkaline phosphatase secondary; 1:3000 with enhanced chemiluminescence detection	Mouse monoclonal	Human CYP2D6	Human CYP2D6 detection by immunoblot	400 µ
458321	IH-MAB-2E1, Anti-human CYP2E1	N/A	Mouse monoclonal	Human CYP2E1	Human CYP2E1 detection by immunoinhibition	400
458334	IH-MAB-3A4, Anti-human CYP3A4	N/A	Mouse monoclonal	Human CYP3A4	Human CYP3A4 detection by immunoinhibition	400
458254	WB-MAB-3A, Anti-human CYP3A	1:500 with alkaline phosphatase secondary; 1:3000 with enhanced chemiluminescence detection	Mouse monoclonal	Human liver Cytochrome P450 fraction	Human CYP3A4/3A5/3A7 detection by immunoblot	400
458234	WB-3A4, Anti-human CYP3A4 serum	1:500 with both alkaline phosphatase secondary and enhanced chemiluminescence detection	Rabbit polyclonal	Peptide	Human CYP3A4/3A7 detection by immunoblot	400
458235	WB-3A5, Anti-human CYP3A5 serum	1:500 with alkaline phosphatase secondary; 1:3000 with enhanced chemiluminescence detection	Rabbit polyclonal	Peptide	Human CYP3A5 detection by immunoblot	400
For UGTs						
458411	WB-UGT1A1, Anti-human UGT1A1 serum	1:500 with enhanced chemiluminescense detection	Rabbit polyclonal	Peptide	Human UGT1A1 detection by immunoblot	400
458427	WB-UGT2B7, Anti-human UGT2B7 serum	1:500 for both alkaline phosphatase secondary and enhanced chemiluminescence detection	Rabbit polyclonal	Peptide	Human UGT2B7 detection by immunoblot	400

CUSTOM PRODUCTS

In addition to the products listed in this guide, Corning has more than 20 years of experience offering custom special preparations from a wide range of species and tissues. Custom products include, but are not limited to, hepatocytes, tissue fractions, and recombinant enzymes. Our custom product team handles the complete process, including tissue ordering, preparation, concentration, packaging, characterization, and delivery. For additional information, please contact **DLCustRes@corning.com** or consult your Corning Drug Discovery Sales Specialist.

Contract Research Services

Corning® Gentest℠ Contract Research Services have been serving customers for more than 20 years, supporting drug discovery and development programs, from secondary screens to post-marketing commitment. Our Study Directors are highly skilled scientists with an in-depth knowledge of absorption, transport, metabolism, and toxicity. This expertise enables Corning Life Sciences Study Directors to partner with you to develop and deliver a broad range of *in vitro* ADME/Tox studies customized to meet your discovery and development project needs. We ensure the highest level of quality and adhere to current regulatory requirements and applicable regulatory agency guidance documents.

Utilizing state-of-the art materials, techniques, and equipment, Corning Life Sciences is ideally suited to assist you in screening for viable drug candidates during drug discovery or to prepare regulatory agency submission-quality reports for your drug development compounds. Let our team of experts take you to the next level with studies designed to predict drug-drug interactions and human pharmacokinetics using the innovative Corning Gentest™ products, cell models, and methodologies.

Permeability and Transport Studies

ABC Transporters

A leader since 1998 in providing drug-transporter products and services, Corning offers diverse options with a comprehensive panel of ATPase binding cassette (ABC) efflux transporters expressed in our transfected cell lines, vesicles, and membranes. From screening assays to comprehensive drug-drug interaction assessment studies, we can provide solutions to your efflux transporter assay needs. Corning's bidirectional transport assays using Caco-2 and the Corning Gentest MDR1-LLC-PK1 cell lines comply with regulatory agency recommended approaches to determine test article apparent permeability (Papp) and assess P-glycoprotein (P-gp) mediated transport and inhibition. Screening and comprehensive interaction studies are also available for efflux transporters BCRP, BSEP, and MRPs, as recommended by regulatory agencies.

SLC Transporters

Using our solute carrier (SLC) over-expressing Corning TransportoCells™ product line, we conduct screening and step-wise approach drug-drug interaction assays to assess whether your test article is a substrate and/or inhibitor of uptake transporters in alignment with the latest FDA, EMA, and ITC recommendations for development of investigational drugs. Uptake assays can be performed OATP1B1, OATP1B3, OAT1, OAT3, OCT1, OCT2, MATE1, MATE2-K, and additional transporters.

Metabolic Stability and Intrinsic Clearance

Corning provides rapid *in vitro* metabolic stability and intrinsic clearance testing using several different enzyme sources. Most often, this test utilizes hepatocytes or liver microsomes. Corning's metabolic stability testing using hepatocytes features carefully selected, single-freeze donor pools with results provided for human and preclinical species to maintain data consistency from assay to assay. The use of Corning UltraPool™ HLM 150 microsomes ensures minimal inter-assay variability.

Enzyme Inhibition Studies

As the *in vitro* ADME market leader in cytochrome P450 (CYP) products and services, Corning provides CYP inhibition services with high quality data analysis. Assays are conducted using industry leading Corning UltraPool HLM 150 pooled human liver microsomes, drug probe substrates, and validated LC/MS/MS analysis methods using stable-labeled isotope internal standards. Capabilities include direct and time-dependent inhibition. Multiple endpoints are possible, including IC_{50}, IC_{50} shift (dilution and non-dilution methodology), as well as K_i and k_{inact}. Corning also provides a comprehensive suite of UGT inhibition assays.

Enzyme Induction Studies

Since 2002, Corning has been providing regulatory agency-driven cytochrome P450 (CYP) induction services using both cryopreserved and freshly isolated human hepatocytes. The use of pre-qualified Corning® Gentest™ inducible cryopreserved hepatocytes ensures a predictable response and accelerated data availability. Testing options include enzyme activity and mRNA endpoints for CYP1A2, CYP2B6, CYP3A4, CYP2C8, CYP2C9, CYP2C19, UGTs, transporters, and more. Follow-up the conventional 3 donor, 3 CYP assays with relative induction scoring (RIS correlation method) in our panel of specially qualified human hepatocyte donors. Ask about our customized assays that can closely align with your in-house methods.

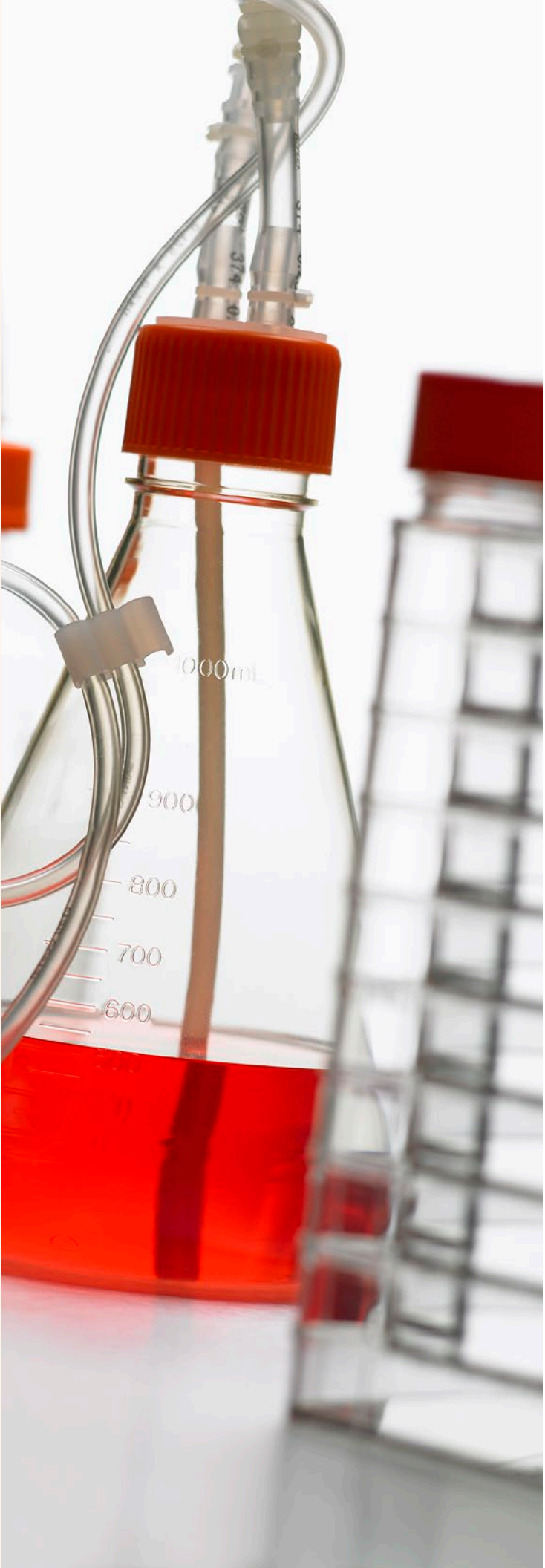
Reaction Phenotyping Studies

Reaction phenotyping studies help identify enzyme-mediated pathways of elimination for a compound — key information that affects population variability in metabolism and the risk of it becoming a victim drug in a drug-drug interaction event. Assays are performed using Corning Supersomes™ enzymes, human liver microsomes, chemical inhibitors, and/or immunoinhibitory antibodies. We can identify metabolic pathways catalyzed by multiple enzymes including CYPs, FMOs, UGTs, CES enzymes, and more to help identify the enzymology of metabolic pathways.

Custom Studies

Corning has expertise in adapting clients' protocols to facilitate comparison with in-house databases of results. Customizations can include the choice of enzyme source, extracellular matrix, treatment media, positive control-inducing chemical/concentration, and delivery solvent, as well as many other client requirements. In addition, over many years we have built several assays to meet our customers' unique and diverse drug metabolism and drug transporter needs, and have provided hundreds of drug-metabolism *in vitro* ADME needs.

For more information on Corning Gentest℠ Contract Research Services, contact Corning Life Sciences at 888.334.5229 x2546, 781.938.2546, e-mail ADMETOX@corning.com, or contact your local Corning Drug Discovery Sales Specialist or Account Manager.



Bioprocess

Overview

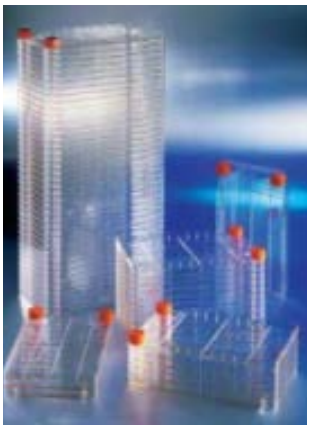
Designed For Performance

Corning Life Sciences offers a full line of bioprocess products that are manufactured under strict process controls assuring consistent product performance. All Corning Life Sciences plastics manufacturing facilities are ISO 9001 registered.

In addition, customers can obtain a Certificate of Compliance or product description for any Corning® or Costar® brand cell culture product from our website. This certificate details lot-specific information on component materials, sterility testing, pyrogen testing, cell attachment, and growth characteristics.

Also available are detailed drawings that highlight product dimensions. Drawings are available by calling your local Corning Life Sciences office.

Stackable Cell Cell Culture



Corning® CellSTACK® Culture Chambers

- Available in five sizes:
  - 1-Stack with 636 cm^2 cell growth area
  - 2-Stack with 1,272 cm^2 cell growth area
  - 5-Stack with 3,180 cm^2 cell growth area
  - 10-Stack with 6,360 cm^2 cell growth area
  - 40-Stack with 25,440 cm^2 cell growth area
- Choice of traditional surface treatment, Corning CellBIND® surface for enhanced cell attachment, or Ultra-Low Attachment surface for reduced cell attachment on selected CellSTACK products.
  - Corning CellBIND surface
    - Great for reducing serum levels
    - Better attachment increases cell yields
  - Ultra-Low Attachment surface
    - Maintains cells in a suspended, unattached state
    - Prevents stem cells from attachment-mediated differentiation
    - Prevents anchorage-dependent cells from dividing
    - Reduces binding of attachment and serum proteins to the substrate
- Greater chamber durability
  - Superior mechanical strength and structural integrity
  - Self venting caps prevent pressure build-up during transport
  - 100% leak-tested prior to shipping
- Greater cleanliness
- Sterile
- Nonpyrogenic
- Continuous supply reliability – manufactured in USA under GMP conditions
- Easier to use
  - Larger openings with threaded closures and vented caps
  - Footprint supports use in standard automation manipulation equipment

Cat. No.	Description	Surface	Growth Area (cm^2)	Qty/Pk	Pk/Cs
3303	CellSTACK 1-chamber	Ultra-Low Attachment	636	1	8
3330	CellSTACK 1-chamber	Corning CellBIND	636	1	8
3268	CellSTACK 1-chamber	TC-treated	636	1	8
3310	CellSTACK 2-chamber	Corning CellBIND	1,272	1	5
3269	CellSTACK 2-chamber	TC-treated	1,272	1	5
3311	CellSTACK 5-chamber	Corning CellBIND	3,180	1	2
3319	CellSTACK 5-chamber	TC-treated	3,180	1	2
3313	CellSTACK 5-chamber	TC-treated	3,180	1	8
3320	CellSTACK 10-chamber	Corning CellBIND	6,360	1	6
3312	CellSTACK 10-chamber	Corning CellBIND	6,360	1	2
3270	CellSTACK 10-chamber	TC-treated	6,360	1	2
3271	CellSTACK 10-chamber	TC-treated	6,360	1	6
3321	CellSTACK 40-chamber	Corning CellBIND	25,440	1	2
3272	CellSTACK 40-chamber	TC-treated	25,440	1	2

Corning CellSTACK stacking device (Cat. No. 3331)

Corning® CellSTACK® Accessories

Corning offers a variety of accessories to simplify handling and reduce contamination risks when processing Corning CellSTACK chambers.

Better Filling

A variety of optional filling caps are available to allow direct aseptic transfer of media and cells via pumping or gravity feed. Several coupling devices are available on these filling caps with or without integrally sealed chemically resistant, heat-sealable flexible tubing. Optional filling caps with attached filters with hydrophobic membranes provide for gas exchange and faster aseptic venting during liquid transfers. Additional sterile vented or unvented 33 mm replacement caps are also available.

Better Options

For additional filling and fluid management options for our CellSTACK vessels, consider Corning's suite of closed system solutions. These solutions provide sterile, easy-to-use options which can be either available as stand-alone manifolds or accessories, or pre-integrated on the CellSTACK vessel. Contact your Corning Bioprocess Specialist for available closed system products or to configure one specifically for your process and CellSTACK vessel (see page B13 for aseptic transfer caps).

For large scale production, CellSTACK 40-chambers are automated systems that can save on labor while increasing reliability and efficiency.

Call us to discuss your specific requirements.

Cat. No.	Description	Qty/Pk	Qty/Cs
3331	Stacking device, ABS, nonsterile	1	5
3732	Universal cap*, 33 mm, with vented overcap, double-bagged, sterile	1	4
3969	Solid cap, sterile	1	6
3968	Vent cap, 0.2 µm membrane, sterile	1	6

*All caps are 33 mm thread caps.

33 mm polyethylene filling cap, not vented (Cat. No. 3969)

33 mm polyethylene universal cap with vented overcap (Cat. No. 3732)

33 mm polyethylene vented cap (Cat. No. 3968)

Corning® HYPER*Stack*® Cell Culture Vessels

Closed System for High Yield Cell Growth

Introducing the next generation in Corning's **H**igh **Y**ield **PER**formance (HYPER) platform – the Corning HYPER*Stack* cell culture vessel. This product line combines the best of two Corning products: the Corning CellSTACK® culture chamber and the Corning HYPER*Flask*® vessel. The utilization of the proprietary gas-permeable film technology provided in the format of the CellSTACK culture chamber allows the HYPER*Stack* vessel to be the most efficient, scalable cell culture vessel for adherent cell culture available today.

Features and Benefits

- **More cells** – 2.5x more cells per volumetric footprint
- **Closed system** – no open fluid manipulations
- **Scalable product** – multiple size offerings
- **Ergonomic design** – easier manipulation
- **Fixed media volume** – 0.2 mL/cm² fills vessel for optimal handling
- **Innovative assembly** – no adhesives, low particulate
- **Less volumetric waste** – less waste per growth area lowers overall costs

2 Sizes Available

(cm² = surface area)

12 layer = 6,000 cm²

36 layer = 18,000 cm²

Protocol Guides

Select HYPER*Stack* video protocols available at **www.corning.com/lifesciences**.

Disposable tubing set for roller bottle (Cat. No. 10043)

Cat. No.	Description	Growth Area (cm²)	Qty/ Pk	Qty/ Cs
10012	HYPER*Stack* 12-layer cell culture vessel, Corning CellBIND® surface	6,000	1	4
10036	HYPER*Stack* 36-layer cell culture vessel, Corning CellBIND surface	18,000	1	2
Accessories				
10042	Disposable tubing set for use with glass bottle, ⅜" ID x ½" OD, animal component-free, chemically resistant, heat sealable flexible tubing, 18" in length, sterile		1	2
10043	Disposable tubing set for use with 850 cm² polystyrene roller bottle, ⅜" ID x ½" OD, animal component-free, chemically resistant, heat sealable flexible tubing, 0.2 µm filter, MPC quick connect		1	2
431644	Corning 850 cm² polystyrene bottle, Easy Grip cap, not treated, sterile		1	40

MPC = medical plastic coupler.

Corning® CellCube® Systems

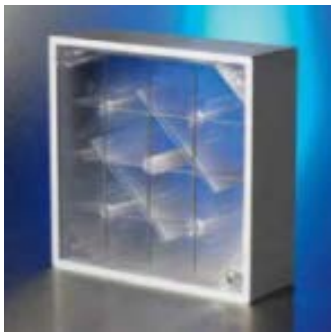
The Corning CellCube system provides a fast, simple, and compact method for the mass culture of attachment-dependent cells. It uses a tissue culture-treated growth surface for cell attachment, and continually perfuses the cells with fresh medium for increased cell productivity. The CellCube system provides an environment which more closely simulates *in vivo* conditions and reliably distributes nutrients and oxygen with low differential gradients across all cells within the modules. The CellCube modules provide a traditional tissue culture-treated surface or Corning CellBIND® surface for the growth of attachment dependent cells.

Cat. No.	Description	Qty/Cs
3136	CellCube single module system with stainless steel stand	1
3200	CellCube 10-Stack module (8,500 cm^2), tissue culture-treated	2
3201	CellCube 25-Stack module (21,250 cm^2), tissue culture-treated	1
3304	CellCube 25-Stack module (21,250 cm^2), Corning CellBIND surface	1
3264	CellCube 100-Stack module (85,000 cm^2), tissue culture-treated	1
3302	CellCube 100-Stack module (85,000 cm^2), Corning CellBIND surface	1

E-Cube™ Culture System

The E-Cube system provides a simple proof of concept to determine if your cells will grow well in the Corning CellCube module prior to investing in the resources and funding that would be necessary for the larger, more automated CellCube system.

Cat. No.	Description	Qty/Pk	Qty/Cs
3286	E-Cube system kit (without CellCube module)	1	1
3200	CellCube module, 10-Stack	1	2
Accessories			
430518	1 liter storage bottle with cap	2	24
401654	45 mm cap with 2 stainless steel ports	1	1
3287	E-Cube fittings	1	1



Corning CellCube 25-Stack module (Cat. No. 3201)

Corning CellCube 100-Stack module (Cat. No. 3264)

E-Cube system with Corning CellCube module (Cat. Nos. 3286 and 3200)

Corning® Roller Bottles

- Treated for optimal cell attachment
- One piece seamless construction
- All bottles have printed lot numbers to aid in product traceability
- Sterile
- Nonpyrogenic

Expected Cell Yields and Recommended Medium Volumes

Description	Approximate Growth Area (cm^2)	Average Cell Yield*	Recommended Medium Volume (mL)
490 cm^2 roller bottle	490	4.9×10^7	100 - 150
850 cm^2 roller bottle	850	8.5×10^7	170 - 255
1700 cm^2 roller bottle	1,700	1.7×10^8	340 - 510
1750 cm^2 roller bottle	1,750	1.75×10^8	350 - 525

*Assumes an average yield of 1×10^5 cells/cm^2 from a 100% confluent culture. Yields from many cell types can be lower than this.

Roller Bottle Application Tips

- Corning recommends 0.2 mL to 0.3 mL of medium per cm^2 of growth area.
- Corning recommends setting roller rack speeds to provide 0.5 to 1.0 rpm.

Standard Roller Bottles

Cat. No.	Surface	Surface Area (cm^2)	Cap Style	Graduations	Qty/Pk	Qty/Cs
430195	TC-treated	490	Plug seal	No	2	40
430699	TC-treated	1,750	Easy grip	Yes	10	20
430849	TC-treated	850	Easy grip	Yes	2	40
431133	TC-treated	850	Easy grip	Yes	20	20
431198	TC-treated	850	Easy grip vent	Yes	2	40
430851	TC-treated	850	Easy grip	Yes	5	40
431321	TC-treated	850	Easy grip	Yes	22	44
3907	Corning CellBIND®	850	Easy grip	Yes	2	40
431329	Corning CellBIND	850	Easy grip vent	Yes	2	40
431344	Corning CellBIND	850	Easy grip	Yes	22	44

Expanded Surface Roller Bottles

Ribbed design provides twice the surface area with the same exterior dimensions

Cat. No.	Surface	Surface Area (cm^2)	Cap Style	Graduations	Qty/Pk	Qty/Cs
430852	TC-treated	1,700	Easy grip	Yes	2	40
430853	TC-treated	1,700	Easy grip	Yes	5	40
431134	Corning CellBIND	1,700	Easy grip	Yes	20	20
431135	TC-treated	1,700	Easy grip	Yes	20	20
431191	TC-treated	1,700	Easy grip vent	Yes	20	20

Polyethylene Roller Bottle Caps

Caps are available separately and are individually wrapped.

Cat. No.	Cap Style	Qty/Pk	Qty/Cs
431132	Easy grip vent	1	300

Easy grip cap features large knurls designed for ergonomic handling.

Easy grip vent cap is designed for applications requiring consistent gas exchange.

Plug seal cap provides a liquid- and gas-tight seal.

Corning® Erlenmeyer Shaker Flasks

Corning Erlenmeyer 5L flasks, plain and baffled bottoms (Cat. Nos. 431685 and 431684)

Corning baffled and plain Erlenmeyer and Fernbach culture flasks are ideal for shaker culture applications and storage.

- Polycarbonate construction: USP Class VI material provides excellent optical clarity and mechanical strength
- Sizes range from 125 mL to 5L
- Baffled or plain bottom options in every size
- Molded-in graduations for accuracy (±5%)
- Vent cap option for continuous gas exchange while ensuring sterility and preventing leakage
- Individually packaged
- Sterility Assurance Level (SAL) of 10^{-6}
- RNase-/DNase-free
- Nonpyrogenic

Baffled Bottom Erlenmeyer Flasks

Cat. No.	Description	Qty/Cs
431405	Erlenmeyer flask, 125 mL, vent cap	50
431404	Erlenmeyer flask, 125 mL, flat cap	50
431407	Erlenmeyer flask, 250 mL, vent cap	50
431406	Erlenmeyer flask, 250 mL, flat cap	50
431401	Erlenmeyer flask, 500 mL, vent cap	25
431408	Erlenmeyer flask, 500 mL, flat cap	25
431403	Erlenmeyer flask, 1L, vent cap	25
431402	Erlenmeyer flask, 1L, flat cap	25
431256	Erlenmeyer flask, 2L, vent cap	6
431253	Fernbach culture flask, 3L, vent cap	4
431684	Erlenmeyer culture flask, 5L, vent cap	4

Plain Bottom Erlenmeyer Flasks

431143	Erlenmeyer flask, 125 mL, vent cap	50
430421	Erlenmeyer flask, 125 mL, flat cap	50
431144	Erlenmeyer flask, 250 mL, vent cap	50
430183	Erlenmeyer flask, 250 mL, flat cap	50
431145	Erlenmeyer flask, 500 mL, vent cap	25
430422	Erlenmeyer flask, 500 mL, flat cap	25
431147	Erlenmeyer flask, 1L, vent cap	25
431146	Erlenmeyer flask, 1L, flat cap	25
431255	Erlenmeyer flask, 2L, vent cap	6
431252	Fernbach culture flask, 3L, vent cap	4
431685	Erlenmeyer culture flask, 5L, vent cap	4

Shaker Flask Application Tip

Corning recommends starting with a shaking rate of 75 rpm to 125 rpm (orbital shaker). For flasks up to 3L, a medium volume of 30% to 40% of the nominal flask capacity is recommended. For the 5L flasks, a medium volume of 50% to 70% of nominal capacity is recommended.

70 mm vent cap (Cat. No. 431340)

Replacement Erlenmeyer Flask Caps

Corning polypropylene Erlenmeyer flask caps are also available separately. They are sterile, individually packaged, and available for the 500 mL and 1L, 2L, and 3L flask sizes.

Cat. No.	Description	Qty/Cs
431372	43 mm vent cap, 500 mL and 1L Erlenmeyer flask	50
431339	48 mm vent cap, 2L Erlenmeyer flask	24
431364	48 mm flat cap, 2L Erlenmeyer flask	24
431340	70 mm vent cap, 3L Erlenmeyer flask	24
431363	70 mm flat cap, 3L Erlenmeyer flask	24
431682	100 mm vent cap, 5L Erlenmeyer flask	24

Spinner Flasks

1L and 250 mL ProCulture spinner flasks (Cat. Nos. 4500-1L and 4500-250)

ProCulture Glass Spinner Flasks

- Baffles enhance aeration and agitation of contents of the flask.
- Unique impeller design ensures optimal stirring.
- Sidearm designs permit easy access of 25 mL and 50 mL pipets.
- For Corning spinner flask accessories, visit **www.corning.com/lifesciences**.

ProCulture Spinner Flasks with Angled Sidearms

Cat. No.	Capacity	Center Neck (mm)	Sidearm Neck (mm)	Qty/Cs
4500-125	125 mL	70	32	1
4500-250	250 mL	70	32	1
4500-500	500 mL	100	45	1
4500-1L	1L	100	45	1
4500-3L	3L	100	45	1
4500-6L	6L	100	45	1
4500-8L	8L	100	45	1
4500-15L	15L	100	45	1
4500-36L	36L	100	45	1
4502-3L	3L	120	45	1
4502-6L	6L	120	45	1
4502-8L	8L	120	45	1
4502-15L	15L	120	45	1
4502-36L	36L	120	45	1
4504-3L	3L	140	45	1
4504-6L	6L	140	45	1
4504-8L	8L	140	45	1
4504-15L	15L	140	45	1
4504-36L	36L	140	45	1

Retrofit kits are available for converting older ProCulture spinner flasks to fit newer dual-bearing impellers.

ProCulture Spinner Flasks with Vertical Sidearms

Cat. No.	Capacity	Number of Vertical Sidearms	Center Neck (mm)	Sidearm Neck (mm)	Qty/Cs
4510-8L	8L	4	100	45	1
4510-15L	15L	4	100	45	1
4510-36L	36L	6	100	45	1
4512-8L	8L	4	120	45	1
4512-15L	15L	4	120	45	1
4512-36L	36L	6	120	45	1
4514-15L	15L	4	140	45	1
4514-36L	36L	6	140	45	1

Disposable spinner flasks
(Cat. Nos. 3152 and 3153)

Disposable spinner flasks
(Cat. Nos. 3561 and 3563)

Corning® Disposable Spinner Flasks

- The Corning disposable spinner flask system comes ready-to-use with a paddle and integrated magnet, reducing the need for time-consuming assembly, cleaning, or reassembly.
- Molded from virgin polystyrene and sterile, each spinner flask system assures a clean sterile unit. No more concerns with detergent residues or contamination.
- The paddle size and height are optimized for each vessel size. A unique integrated magnet provides smooth, even rotation at required speeds on slow-speed stirrers. Heat build-up in the vessel is reduced by means of a specially designed flange that raises the vessel off the stir-plate surface (125 mL and 500 mL flasks only).

Disposable Spinner Flask Specifications

Parameter	125 mL (Cat. No. 3152)	500 mL (Cat. No. 3153)	1L (Cat. No. 3561)	3L (Cat. No. 3563)
Vessel height	145 mm	203.2 mm	245 mm	259 mm
Vessel diameter	63.5 mm	87.3 mm	137 mm	188 mm
Vessel width	114.8 mm	139.7 mm	203 mm	256 mm
Sidearm opening (ID)	18.8 mm	38.1 mm	39 mm	39 mm
Sidearm cap diameter (OD)	25 mm (GL 25 threads)	45 mm (GL 45 threads)	54 mm (GL 45 threads)	54 mm (GL 45 threads)
Paddle size (W x H)	39.9 x 50.0 mm	50.3 x 61.0 mm	69 x 215 mm	105 x 227 mm
Maximum drive speed			150 rpm	150 rpm
Magnet	ALNICO	ALNICO	ALNICO	ALNICO

Corning 125 mL and 500 mL Disposable Spinner Flasks

Cat. No.	Description	Capacity (mL)	Center Neck (mm)	Sidearm Neck (mm)	Qty/Cs
3152	Disposable spinner flask	125	70	25	12
3153	Disposable spinner flask	500	100	45	12
3578	Disposable spinner flask, vent cap	500	100	45	12

Corning 1L and 3L Disposable Spinner Flasks

Cat. No.	Description	Capacity (L)	Qty/Cs
3561	Disposable spinner flask	1	6
3580	Disposable spinner flask, vent cap	1	6
3563	Disposable spinner flask	3	4
3581	Disposable spinner flask, vent cap	3	4

Vent cap (Cat. No. 3567)

Replacement Disposable Spinner Flask Caps

Corning disposable spinner flask replacement caps are available separately. Each are provided sterile and individually doubled-bagged. Caps are available for 500 mL, 1L, and 3L flask sizes.

Cat. No.	Description	Compatible with Cat. No.	Qty/Cs
3567	Vent cap, 0.2 µm pore	3153, 3561, 3580, 3563, 3581	4

Bioreactor

Corning mini bioreactor

Corning Mini Bioreactors are ideal for high throughput process optimization for suspension cell culture. The product consists of the Corning 50 mL centrifuge tube with a vented cap. This product is used in cell line development, clone selection, media optimization, and recombinant protein development.

Tube has large marking spot to clearly identify tube contents and experimental parameters. Polyethylene cap has 4 vents, and the hydrophobic membrane provides gas exchange. Sterile, nonpyrogenic, and RNase-/DNase-free.

Cat. No.	Description	Qty/Pk	Qty/Cs
431720	Mini Bioreactor, 50 mL with polypropylene vented caps, hydrophobic membrane	25	300

Corning® Microcarriers for Bioprocess Scale-up

Corning microcarriers are designed to simplify your scale-up processes. The microcarriers are sterile, ready-to-use, and available in closed systems packaging to be used directly with bioreactors. Additionally, the microcarriers are surface-treated to enhance cell attachment, maximizing cell yield and viability.

Features

- Consistency – USP Class VI polystyrene material provides a consistent platform
- Performance – Corning microcarriers are offered with four surface treatments:
  - Corning Synthemax® II substrate creates a synthetic surface on the microcarriers for stem cell expansion. Use low concentration for MSC applications and high concentration for iPS/ES applications.
  - Corning CellBIND® surface treatment infuses the surface of the microcarriers with oxygen to improve cell attachment
  - Positive charge surface treatment
  - Collagen coating
- Sterility Assurance Level (SAL) of 10^{-6}
- Nonpyrogenic
- Available as closed system solutions

Product Specifications

- Bead size: 125 µm to 212 µm
- Density: 1.026 ± 0.004 g/cm^3
- cm^2/gram: 360

Vials and Closed System Packaging

Corning microcarriers are available sterile and ready to use in 10 g vials. This format provides flexibility to select the amount of beads to use.

During the mature phase of process development and into manufacturing, closed system packaging would be necessary to maintain sterility and ease bioreactor loading. Corning microcarriers are also available in off-the-shelf and custom closed systems packaging. Tubing, connectors, and materials are customizable based on individual needs.

Scientific Support

Corning strives to provide the highest scientific support for all our products. Please contact your Corning Account Manager or Bioprocess Specialist for ideas on how to optimize Corning microcarriers for your scale-up needs.

Cat. No.	Description	Size	Qty/Cs
3772	Corning untreated microcarriers	10 g	1
3779	Corning CellBIND surface microcarriers	10 g	1
3781	Low concentration Corning Synthemax II microcarriers	10 g	1
3784	High concentration Corning Synthemax II microcarriers	10 g	1
3786	Corning Collagen-coated microcarriers	10 g	1
3787	Corning positive charge surface microcarriers	10 g	1
4620	Corning CellBIND surface microcarriers	100 g	1
4621	Corning CellBIND surface microcarriers	500 g	1
4622	Low concentration Corning Synthemax II microcarriers	100 g	1
4623	Low concentration Corning Synthemax II microcarriers	500 g	1
4624	Corning untreated microcarriers	100 g	1
4625	Corning untreated microcarriers	500 g	1

Corning® Microcarriers for Bioprocess Scale-up (Continued)

Aseptic Transfer Caps for 100 g and 500 g Sizes

Cat. No.	Description	Tubing	Tubing Length with Connector	Tubing Connection	Qty/Cs
4626	Aseptic transfer cap for 100 g bottles – Luer lock	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	30"	Luer lock	1
4627	Aseptic transfer cap for 100 g bottles – MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	30"	MPC	1
4628	Aseptic transfer cap for 500 g bottles – Luer lock	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	30"	Luer lock	1
4629	Aseptic transfer cap for 500 g bottles – MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	30"	MPC	1

MPC = medical plastic coupler.

Corning® Closed System Solutions

Many of the Corning products you rely on for cell culture are now offered as closed system solutions

Closed cell culture systems help reduce the risk of adventitious contamination during drug development and manufacturing. Ordering components and assembling tubing sets in-house can add complexity and time to your processes.

Corning closed system solutions arrive sterile and ready to use. They decrease the risk of contamination, reduce the time and expense of sourcing and assembly, and improve productivity.

Corning closed systems are:

- Compliant with USP Class VI
- Sterility Assurance Level (SAL) of SAL 10^{-6}
- Animal-free or BSE/TSE compliant
- Nonpyrogenic

Choose from Two Types of Closed System Solutions

Catalog Product

Standard offerings are available in our catalog including aseptic transfer cap accessories or vessels with pre-attached aseptic accessories.

Configure-to-Order

Corning has a portfolio of over 200 qualified components in our library that can be assembled to meet your specifications.

Designing Your Customized Order is Easy

1. Select your vessel or bag and desired surface treatment.
2. Select your components.
3. Contact your Corning Account Manager or Bioprocess Specialist.

1. VESSELS

+

2. COMPONENTS

3. YOUR CLOSED SYSTEM SOLUTION

Vent cap with tubing
(Cat. No. 3281)

Fill cap, male MPC, ⅜"
(9.5 mm) ID with female MPC
end cap (Cat. No. 3339)

Aseptic Transfer Caps for Corning® CellSTACK® Culture Chambers

Cat. No.	Description	Tubing Inside Diam.	Tubing Length	Tubing Connection	Qty/ Pk	Qty/ Cs
3282	Fill cap with tubing, FLL with male Luer plug	⅛" (3.2 mm)	18 inches	FLL	1	5
3284	Vent cap with PVDF bacterial air vent 0.1 µm filter	¼" (6.4 mm)	7 cm	Barbed fitting	1	4
3333	Fill cap with male MPC coupling and a female MPC end cap	¼" (6.4 mm)	70 cm	Female MPC	1	4
3328	Fill cap with female MPC coupling, barbed fitting with male MPC end cap	¼" (6.4 mm)	N/A	Male MPC	1	4
3284	Vent cap with PVDF bacterial air vent 0.1 µm filter	¼" (6.4 mm)	7 cm	Barbed fitting	1	4
3334	Fill cap with male MPC coupling, barbed fitting with female MPC end cap	¼" (6.4 mm)	N/A	Female MPC	1	4
3281	Vent cap with tubing and 50 mm PVDF 0.2 µm vent filter	⅜" (9.5mm)	7 cm	Barbed fitting	1	5
3283	Fill cap with tubing and barbed fittings	⅜" (9.5 mm)	18 inches	Barbed fitting	1	5
3339	Fill cap with male MPC coupling, barbed fitting with female MPC end cap	⅜" (9.5 mm)	N/A	Female MPC	1	4
3329	Fill cap with female MPC coupling, barbed fitting with male MPC end cap	⅜" (9.5 mm)	N/A	Male MPC	1	4
3324	Two (2) vented over caps and one (1) solid over cap for Corning universal caps	N/A	N/A	N/A	5	100

Aseptic transfer caps, MLL
(Cat. Nos. 431444, 431446,
and 431448)

Aseptic transfer caps, MPC
(Cat. Nos. 431445, 431447,
and 4314449)

Aseptic Transfer Caps for Corning Erlenmeyer Flasks

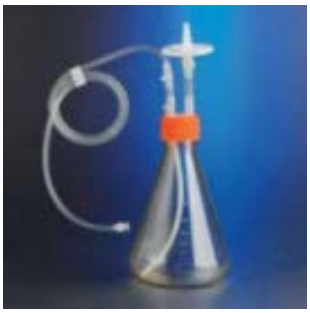
Cat. No.	Description	Tubing	Tubing Length with Connector	Tubing Connection	Qty/ Pk	Qty/ Cs
431444	43 mm cap, 1L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	12"	MLL	1	5
431445	43 mm cap, 1L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	12"	Male MPC	1	5
431446	48 mm cap, 2L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	12"	MLL	1	6
431447	48 mm cap, 2L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	12"	Male MPC	1	6
431448	70 mm cap, 3L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	12"	MLL	1	4
431449	70 mm cap, 3L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	12"	Male MPC	1	4
11500	100 mm cap, 5L, dip tube with 0.2 µm vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	36"	Male MPC	1	4

FLL = female Luer lock, MPC = medical plastic coupler, MLL = male Luer lock.

Please contact your local Corning Bioprocess Specialist to discuss individual components.

Corning Erlenmeyer flasks for closed systems solutions, MPC (Cat. Nos. 431518 and 431520)

125 mL Corning Erlenmeyer flask with dip tube and 0.2 µm filter, MLL/FLL (Cat. No. 11405)



1L Corning Erlenmeyer flask with dip tube and 0.2 µm filter, MLL/FLL (Cat. No. 11440)

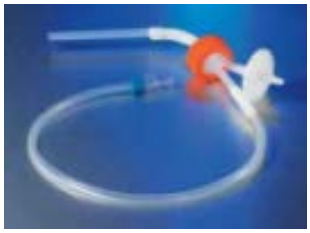
5L Corning Erlenmeyer flask with dip tube and 0.2 µm filter, MPC (Cat. No. 11501)

Preassembled Closed System Solutions for Erlenmeyer Flasks

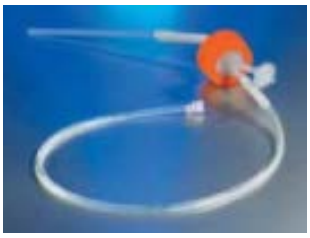
Cat. No.	Description	Tubing	Tubing Length with Connector	Tubing Connection	Qty/ Pk	Qty/ Cs
11405	125 mL flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	36"	MLL	1	6
11410	250 mL flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	20"	MLL	1	4
11415	250 mL flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	36"	MLL	1	4
11425	500 mL flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	36"	MLL	1	2
431510	1L flask with dip tube with 0.2 µm vent, MLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	12"	MLL	1	4
431516	1L flask with dip tube with 0.2 µm vent, MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	12"	Male MPC	1	4
11440	1L flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	36"	MLL	1	4
431512	2L flask with dip tube with 0.2 µm vent, MLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	12"	MLL	1	3
431518	2L flask with dip tube with 0.2 µm vent, MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	12"	Male MPC	1	3
11460	2L flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	20"	MLL	1	2
11465	2L flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	36"	MLL	1	2
431514	3L flask with dip tube with 0.2 µm vent, MLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	12"	MLL	1	2
431520	3L flask with dip tube with 0.2 µm vent, MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	12"	Male MPC	1	2
11495	3L flask with dip tube with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	20"	MLL	1	2
11501	5L flask with dip tube with 0.2 µm filter, MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	36"	Male MPC	1	2
11502	5L flask, baffled, with dip tube with 0.2 µm filter, MPC	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	36"	Male MPC	1	2

MLL = male Luer lock, MPC = medical plastic coupler, FLL = female Luer lock.

Please contact your local Corning Bioprocess Specialist to discuss individual components.



Aseptic transfer cap, MPC quick connect (Cat. Nos. 3528, 3545, and 3558)



Aseptic transfer cap, MLL quick connect (Cat. Nos. 3565, 3562, and 3564)

Aseptic Transfer Caps for Disposable Spinner Flasks

Cat. No.	Description	Tubing	Tubing Length with Connector	Tubing Connection	Qty/ Pk	Qty/ Cs
3565	500 mL, ⅛" dip tube with 0.2 µm filter, vent	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	24"	MLL	1	2
3528	500 mL, ¼" dip tube with 0.2 µm filter, vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	24"	Male MPC	1	2
3562	1L, ⅛" dip tube with 0.2 µm filter, vent	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	24"	MLL	1	2
3545	1L, ¼" dip tube with 0.2 µm filter vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	24"	Male MPC	1	2
3564	3L, ⅛" dip tube with 0.2 µm filter, vent	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	24"	MLL	1	2
3558	3L, ¼" dip tube with 0.2 µm filter, vent	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	24"	Male MPC	1	2

1L and 3L Disposable spinner flasks, MPC quick connect (Cat. Nos. 3546 and 3559)

Preassembled Closed System Solutions for Disposable Spinner Flasks

Cat. No.	Description	Tubing	Tubing Length with Connector	Tubing Connection	Qty/ Pk	Qty/ Cs
3546	1L, preassembled with 3545 transfer cap	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	24"	Male MPC	1	6
3569	1L, preassembled with 3562 transfer cap	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	24"	MLL	1	6
3559	3L, preassembled with 3558 transfer cap	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	24"	Male MPC	1	4
3579	3L, preassembled with 3564 transfer cap	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	24"	MLL	1	4

MPC = medical plastic coupler, MLL = male Luer lock.

Please contact your local Corning Bioprocess Specialist to discuss individual components.

Preassembled Closed System Solutions for Centrifuge Tubes

50 mL centrifuge tubes with MLL dip tube and 0.2 µm filter (Cat. Nos. 11705 and 11706)

500 mL centrifuge tube with MLL dip tube and 0.2 µm filter (Cat. No. 11750)

Transfer cap for roller bottle (Cat. No. 10043)

Cat. No.	Description	Tubing	Tubing Length with Filter	Tubing Length with Connector	Tubing Connection	Qty/ Pk	Qty/ Cs
11705	50 mL centrifuge tube with dip tube and 0.2 µm filter with MLL/FLL end	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	4"	18"	MLL	1	2
11706	50 mL centrifuge tube and 0.2 µm filter with MLL/FLL end	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD	4"	18"	MLL	1	2
11750	500 mL centrifuge tube with dip tube and 0.2 µm filter with MLL/FLL end	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD and ¼" ID, ⅜" OD	6"	20"	MLL	1	2
11160	500 mL centrifuge tube with 0.2 µm filter with MLL/FLL end	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	6"	21"	MLL	1	2

Aseptic Transfer Caps for Roller Bottles

Cat. No.	Description	Tubing	Tubing Length with Connector	Tubing Connection	Qty/Pk	Qty/Cs
10043	Disposable aseptic transfer cap for roller bottle with 0.2 µm filter	Chemically resistant, heat sealable flexible tubing, ⅜" ID, ⅝" OD	6"	Male MPC	1	2

FLL = female Luer lock, MLL = male Luer lock, MPC = medical plastic coupler.

Please contact your local Corning Bioprocess Specialist to discuss individual components.

150 mL Easy Grip storage bottle with dip tube and filter, MPC (Cat. No. 11651)

150 mL Easy Grip storage bottle with dip tube and filter, MLL (Cat. No. 11650)

500 mL Easy Grip storage bottle with dip tube and filter, MPC (Cat. No. 11666)

500 mL Easy Grip storage bottle with dip tube and filter, MLL (Cat. No. 11665)

Corning® Polystyrene Storage Bottles

Cat. No.	Description	Tubing	Tubing Length with Filter	Tubing Length with Connector	Length of the Dip Tube	Tubing Connection	Qty/ Pk	Qty/ Cs
11650	150 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD and ¼" ID, ⅜" OD	6"	24"	4.25"	MLL	1	8
11651	150 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm PTFE filter	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	4"	20"	4.25"	Male MPC	1	8
11655	250 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD and ¼" ID, ⅜" OD	6"	24"	5"	MLL	1	6
11656	250 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm PTFE filter	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	4"	20"	5"	Male MPC	1	6
11665	500 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD and ¼" ID, ⅜" OD	6"	24"	5.5"	MLL	1	4
11666	500 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm PTFE filter	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	4"	20"	5.5"	Male MPC	1	4
11680	1,000 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm filter, MLL/FLL	Chemically resistant, heat sealable flexible tubing, ⅛" ID, ¼" OD and ¼" ID, ⅜" OD	6"	24"	7"	MLL	1	4
11681	1,000 mL Easy Grip polystyrene storage bottles with dip tube, with 0.2 µm PTFE filter	Chemically resistant, heat sealable flexible tubing, ¼" ID, ⅜" OD	4"	20"	7"	Male MPC	1	4

MPC = medical plastic coupler, MLL = male Luer lock, FLL = female Luer lock, PTFE = polytetrafluoroethylene.

Please contact your local Corning Bioprocess Specialist to discuss individual components.

Cell Culture

Overview

DESIGNED FOR PERFORMANCE

Corning Life Sciences offers a full line of cell culture products that are manufactured under strict process controls guaranteeing consistent product performance. All Corning Life Sciences plastics manufacturing facilities are ISO 9001 registered.

In addition, customers can now obtain a Certificate of Compliance or product description for any Corning® or Costar® cell culture product from our website. This certificate details lot-specific information on component materials, sterility testing, pyrogen testing, cell attachment, and growth characteristics.

Also available are detailed drawings that highlight product dimensions. Drawings are available simply by calling your local Corning Life Sciences office or by calling Scientific Support at 1.800.492.1110.

ADDITIONAL QUALITY ASSURANCES

Nonpyrogenic Certification

Most Corning and Costar cell culture products are certified nonpyrogenic with a documented endotoxin level less than or equal to 0.1 EU/mL. Endotoxins have been shown to cause variability in cell culture. Nonpyrogenic certification is just another way Corning helps ensure consistent cell culture results. Corning also offers a detailed technical bulletin on the effects of endotoxins in cell culture. This may be obtained by calling your local Corning Life Sciences office or by downloading the bulletin from the Corning website **www.corning.com/lifesciences**.

Lot Number Traceability

To ensure accurate lot number traceability in biotechnology research and production facilities, most Corning and Costar cell culture flasks and most roller bottles feature a lot number individually printed on each product. Lot number traceability helps simplify quality assurance procedures for tracking and monitoring production and research processes.

Consistent Surface Chemistry

All Corning and Costar cell culture products are produced in ISO-certified facilities. Cell culture products are made from USP Class VI materials in accordance with documented manufacturing procedures. By carefully controlling both the materials we use and our manufacturing process, Corning is able to provide consistent surface chemistries across our entire line of cell culture products. This consistency increases the researcher's ability to produce reliable results.

Innovative Cell Culture Surfaces for the 21st Century

Corning® Surfaces

For over 30 years, Corning culture vessels have been modified using corona discharge and vacuum plasma to generate better surfaces for growing attached cells.

Today's culture technologies, such as stem cells and tissue engineering, require new surfaces with new capabilities. Corning's investments in developing surface technologies are paving the way for these cell culture applications. See for yourself why Corning is the first and only name to trust for surfaces that are backed with a performance guarantee.

Surfaces for Enhancing Cell Attachment

Corning CellBIND® Surface

The unique Corning CellBIND surface uses a microwave process for incorporating significantly more oxygen into the cell culture surface, rendering it better for cell attachment especially under difficult conditions.

- Quickly adapts cells to reduced serum or serum-free conditions
- Improves attachment and yield
- No special handling or storage required

Corning Synthemax® Self-coating Substrate

Corning Synthemax self-coating substrate is a unique, animal-free, synthetic Vitronectin-based peptide containing the RGD motif and flanking sequences. The Synthemax substrate allows for scalable, multi-passage expansion of pluripotent stem cells in serum-free media, such as mTeSR®, subsequent to differentiation into a number of cell types, including retinal pigment epithelial cells and cardiomyocytes, as well as propagation of various progenitor cell types.

Corning Osteo Assay Surface

The Corning Osteo Assay surface is designed for:

- Direct assessment of osteoclast and osteoblast functional *in vitro* activity
- Osteoclast and osteoblast precursor differentiation
- Co-culture of osteoclast and/or osteoblasts with other cell lines
- Solution-based quantitative assays
- Studies related to bone remodeling and pit formation

Corning Microplates with Poly-D-Lysine-coated Surface

Corning Poly-D-Lysine (PDL) microplates are coated with PDL (molecular weight range of 70 to 150 kDa), giving the surface a net positive charge for better cell attachment.

- Improves differentiation of primary neurons, glial cells, neuroblastomas
- Enhances attachment of transfected cell lines, including HEK-293
- Helps cells stay attached during assay processing

Surfaces for Reducing or Preventing Cell Attachment

Corning Ultra-Low Attachment-coated Polystyrene Surface

The Corning Ultra-Low Attachment surface uses a covalently bound hydrogel layer to inhibit cell attachment.

- Growing primary cultures of tumor or adult stem cells as unattached spheroids
- Prevents anchorage-dependent cells, such as fibroblasts, from attaching and dividing
- Promoting embryoid body formation from ES cells

	Cell Culture Formats							
Corning Cell Culture Surfaces	Flasks	Dishes	Multiple Well Plates	Microplates	Corning CellSTACK®	Corning HYPERFlask® Chambers	Cell Culture Tubes	Self-coating
For enhancing cell attachment:								
Original Tissue Culture (TC) surface	■	■	■	■	■		■	
Corning CellBIND surface	■	■	■	■	■	■		
Poly-D-Lysine-coated surface				■				
For reducing or preventing cell attachment:								
Ultra-Low Attachment surface	■	■	■	■	■			
For specialized cell needs:								
Corning Osteo Assay surface			■	■				
Corning Synthemax surface								■

For more information or product numbers, reference the format categories within this guide.

Corning® CellBIND® Surface

A Novel Surface for Improved Cell Attachment, Serum Reduction, or the Elimination of Coatings

Increase Cell Growth and Yields with Corning CellBIND Surface

The Corning CellBIND surface enhances cell attachment under difficult conditions, such as reduced-serum or serum-free medium, resulting in higher cell yields.

Developed by Corning scientists, this technology uses a microwave plasma process for treating the culture surface. This process improves cell attachment by incorporating significantly more oxygen into the cell culture surface, rendering it more hydrophilic (wettable) and increasing surface stability.

Benefits

- May eliminate the need for tedious, time-consuming, expensive and low stability biological coatings
- More quickly adapts cells to reduced-serum or serum-free conditions
- Increase cell survival following cryopreservation
- Reduces premature cell detachment from confluent cultures, especially in roller bottles
- Better cell attachment leads to increased cell growth and yields
- More consistent and even cell attachment
- Requires no refrigeration or special handling and is stable at room temperature

Same High Quality Standards as Other Corning Vessels

- Manufactured from optically clear polystyrene
- Rigorous QC testing for consistency and reproducibility
- Sterile
- Nonpyrogenic
- Lot numbers for quality assurance and tracking
- Corning CellBIND surface logo differentiates from standard treatment cell culture products and avoids mix-ups

Cell Dissociation Recommendations

Culture inoculating and harvesting should be performed in the same manner as methods currently being employed. Both enzymatic and non-enzymatic dissociating solutions have been successfully used to remove cells from Corning CellBIND surfaces. These include: Trypsin-EDTA, Accutase®, Versene®, Dispase®, and Citric Saline. Some dissociating agents, such as Dispase or Versene, should be removed by centrifugation prior to plating the cells.

Enhanced Attachment of LNCaP Cells to the Corning CellBIND Surface*

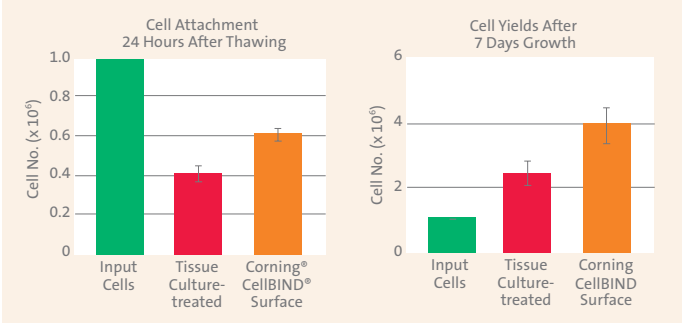


Figure 1. Left: Adherent cell recovery and growth of LNCaP cells 24 hours post-seeding. Data is average ± standard error from 3 independent experiments. Right: Average ± standard error from 3 independent experiments for 7 days of growth after initial attachment.

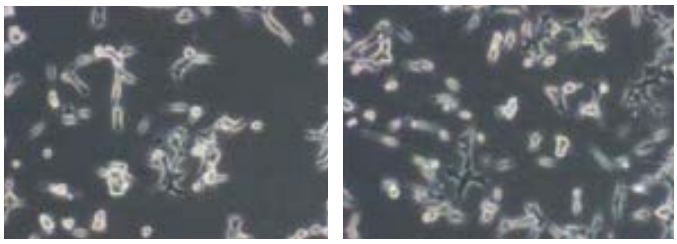


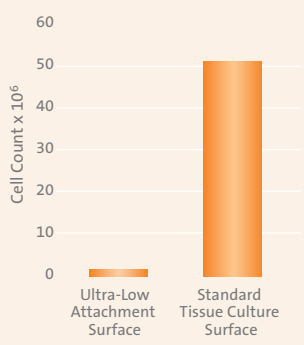
Figure 2. Attachment of LNCaP cells. Cells were thawed and plated onto the Corning CellBIND surface (right) or tissue culture-treated (left) T-25 flasks. 24 hours post-seeding a random field was viewed by light microscopy (100X magnification).

*From *Enhanced Attachment of LNCaP Cells to the Corning CellBIND surface*, Corning SnAPPShot publication CLS-AN-048.

Corning CellBIND surface is available on flasks, multiple well plates, 96-well and 384-well microplates, and dishes.

For Corning CellBIND surface roller bottles and Corning CellSTACK® culture chambers, see the **Bioprocess** section of this catalog.

For Corning CellBIND surface microplates, see the **Microplates** section of this catalog or the **Microplates Product Selection Guide** (CLS-C-DL-MP-014).



Comparison of cell attachment in Ultra-Low Attachment surface vs. standard tissue culture-treated plates.
Vero cells plated at 2.6 x 10^6 cells per well grown for 4 days at 37°C in a 5% CO_2 environment show a 99% reduction in cellular attachment vs. standard tissue culture-treated product.

Ultra-Low Attachment Surface

For Dishes, Plates, Flasks, and Corning® CellSTACK® Culture Chambers

The Ultra-Low Attachment surface is a unique covalently bonded hydrogel surface that is hydrophilic and neutrally charged. It minimizes cell attachment, protein absorption, and enzyme activation. The surface is noncytotoxic, biologically inert, and nondegradable.

Suggested working volumes for Ultra-Low Attachment surface products:

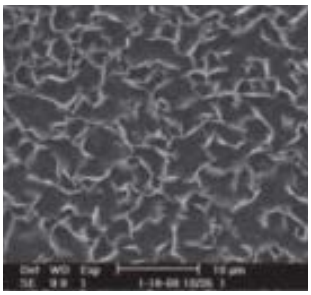
- 96-well plate: 0.1 mL to 0.2 mL/well
- 24-well plate: 0.4 mL to 0.6 mL/well
- 6-well plate: 1.9 mL to 2.9 mL/well
- 60 mm dish: 4.2 mL to 6.3 mL/dish
- 100 mm dish: 11.0 mL to 16.5 mL/dish
- 25 cm^2 flask: 5 mL to 7.5 mL/flask
- 75 cm^2 flask: 15 mL to 22.5 mL/flask
- 636 cm^2 chamber: 127 mL to 191 mL/flask

There are no special procedures that need to be followed in order to use this surface.

For Ultra-Low attachment surface microplates, see the **Microplates** section of this catalog or the **Microplates Product Selection Guide** (CLS-C-DL-MP-014).

Corning Osteo Assay Surface

For Osteogenesis Research



Scanning electron micrograph of Corning Osteo Assay surface

The Corning Osteo Assay surface is a unique 3-dimensional structure that mimics *in vivo* bone for *in vitro* bone cell assays. This inorganic bone biomaterial surface in a multiple well plate is capable of supporting the functional properties of osteogenic cells. The assay surface is manufactured using a proprietary surface coating technology which delivers lot-to-lot consistency, translating to reliable and reproducible results in bone cell assays. This surface also offers a consistent and defined alternative to preparing dentine or bone slices, reducing the variability in your assay system and resulting in more predictable assay readouts.

The Corning Osteo Assay surface is designed for:

- Direct assessment of osteoclast and osteoblast functional *in vitro* activity
- Osteoclast and osteoblast precursor differentiation
- Co-culture of osteoclast and/or osteoblasts with other cell lines
- Solution-based quantitative assays
- Studies related to bone remodeling and pit formation

Cat. No.	Description	Qty/Pk	Qty/Cs
3987	24-well multiple well plate, Osteo Assay surface, polystyrene sterile, with proprietary coating	1	4
3989	1 x 8 Stripwell™ microplate, Osteo Assay surface, polystyrene, 12 strips per holder with lid, sterile, with proprietary coating	1	2

For Corning Osteo Assay surface microplates, see the **Microplates** section of this catalog or the **Microplates Product Selection Guide** (CLS-C-DL-MP-014).

Corning Synthemax® Self-coating Substrate

Corning Synthemax self-coating substrate is a unique, animal-free, synthetic Vitronectin-based peptide containing the RGD motif and flanking sequences. The Synthemax substrate allows for scalable, multi-passage expansion of pluripotent stem cells in serum-free media, such as mTeSR®, subsequent to differentiation into a number of cell types, including retinal pigment epithelial cells and cardiomyocytes, as well as propagation of various progenitor cell types.

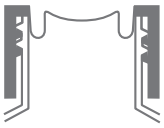
Cat. No.	Description	Qty/Pk	Qty/Cs
3535	Corning Synthemax II-SC substrate, 10 mg vial	1	1

Cell Culture Flasks

Corning® and Costar® flasks are available in a variety of sizes, designs and cap styles to meet your needs.

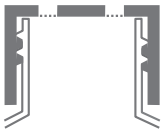
- Corning CellBIND® surface is a novel cell culture treatment that increases surface wettability for more even and consistent cell attachment.
- Ultra-Low Attachment surface flasks feature a covalently bound hydrogel layer that minimizes cell attachment, protein absorption and cellular activation.
- Manufactured from optically clear virgin polystyrene
- Treated for optimal cell attachment
- Printed lot numbers for traceability
- 100% integrity tested
- Sterile
- Nonpyrogenic

Flask Cap Styles



Plug seal caps feature one-piece linerless construction and are designed for use in closed systems, providing a liquid- and gas-tight seal. When loosened, this cap can also be used in open systems. This cap design was a Corning innovation that first appeared in 1974.

Phenolic-style caps are designed (when loosened) for use in open systems requiring gas exchange. With the caps slightly loosened, gas is exchanged between the environments inside and outside of the flask.



Vent caps contain a 0.2 µm pore, hydrophobic membrane sealed to the cap, providing consistent, sterile gas exchange while minimizing the risk of contamination. These caps are highly recommended for use in all CO_2 incubators, especially for long-term use. The vent cap was a Corning innovation that first appeared in 1988.

Flask Neck Styles

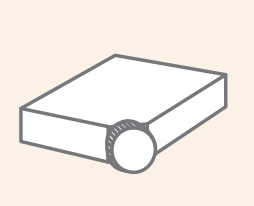
Straight neck flasks are ideal for larger medium volumes since this design reduces medium sloshing into the cap.

Canted neck flasks allow easier pouring and improved access to the flask for pipetting or scraping. The canted neck design was a Corning innovation that first appeared in 1974.

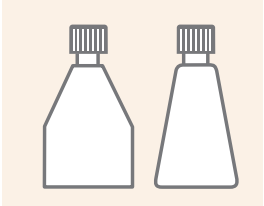
Angled neck flasks improve pipet access and reduce medium sloshing into the neck. This design was a Corning innovation that first appeared in 1988.

Flask Shapes

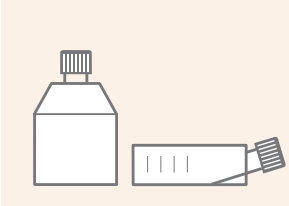
Choosing a flask shape is usually a matter of personal preference:



Low profile flasks have reduced height for incubator space savings. The corner neck gives direct access to the flask corner.



Triangular and modified-triangular flasks offer good pipet and cell scraper access to the corners. The wider base provides added stability.



Rectangular flasks have a ramp from the bottom to the canted neck for easier pouring and pipet access. Most canted neck flasks also have an anti-tip skirt to enhance stability.

Angled neck and traditional straight neck flasks utilize the entire bottom area for cell growth. Their design saves on space and reduces medium sloshing into the neck.

U-shaped T-75 flasks have rounded shoulders for an easier grip and better access when removing or tightening the cap. The new ergonomic shape also reduces the number of corners, improves cell scraping, and allows the use of a larger pipet.

25 cm² triangular flask with vent cap (Cat. No. 3056)

25 cm² canted neck flask with vent cap (Cat. No. 430639)

Cell Culture Tip

Visit **www.corning.com/lifesciences** for technical cell culture application bulletins.

Cell Culture Flasks

25 cm² Growth Area Flasks

Cat. No.	Surface	Flask Style	Neck Style	Cap Style	Qty/Pk	Qty/Cs
430168	TC-treated	Rectangular	Canted	Plug seal	20	500
430372	TC-treated	Rectangular	Canted	Phenolic style	20	500
430639	TC-treated	Rectangular	Canted	Vent	20	200
3055	TC-treated	Triangular	Angled	Phenolic style	20	500
3056	TC-treated	Triangular	Angled	Vent	10	200
3289	Corning® CellBIND®	Rectangular	Canted	Vent	20	200
3815	Ultra-Low Attachment	Rectangular	Canted	Vent	6	24
431463	Not treated	Rectangular	Canted	Vent	20	200

75 cm² Growth Area Flasks

430641U	TC-treated	U-shaped	Canted	Vent	5	100
430720U	TC-treated	U-shaped	Canted	Plug seal	5	100
430725U	TC-treated	U-shaped	Canted	Phenolic style	5	100
431464U	Not treated	U-shaped	Canted	Vent	5	100
3275	TC-treated	Modified triangular	Straight	Phenolic style	5	100
3276	TC-treated	Modified triangular	Straight	Vent	5	100
3290	Corning CellBIND	U-shaped	Canted	Vent	5	100
3814	Ultra-Low Attachment	U-shaped	Canted	Vent	4	24

75 cm² canted neck U-shaped flask with vent cap (Cat. No. 430641U)

75 cm² canted neck U-shaped flask with phenolic style cap (Cat. No. 430725U)

75 cm² triangular flask with phenolic style cap (Cat. No. 3275)

100 cm² low profile canted neck flask with vent cap (Cat. No. 3816)

150 cm² canted neck flask with plug seal cap (Cat. No. 430823)

175 cm² flask with vent cap and bar code (Cat. No. 431306)

Cell Culture Flask Selection Tip

The low profile 100 cm² flask:

- gives 33% more area in the footprint of a T-75 flask
- has a 1/2 turn easy-opening cap
- saves 33% in incubator space
- uses 26% less plastic than a T-75 flask

Cell Culture Flask Application Tip

Corning recommends 0.2 mL to 0.3 mL of medium per cm² of growth area.

100 cm² Growth Area Low Profile Flask

Cat. No.	Surface	Flask Style	Neck Style	Cap Style	Qty/Pk	Qty/Cs
3816	TC-treated	Low profile	Canted	Vent	6	60
3073	Corning® CellBIND®	Low profile	Canted	Vent	6	60
150 cm² Growth Area Flasks						
430823	TC-treated	Rectangular	Canted	Plug seal	5	50
430824	TC-treated	Rectangular	Canted	Phenolic style	5	50
430825	TC-treated	Rectangular	Canted	Vent	5	50
3291	Corning CellBIND	Rectangular	Canted	Vent	5	50
431465	Not treated	Rectangular	Canted	Vent	5	50
162 cm² Growth Area Flasks						
3150	TC-treated	Traditional	Straight	Phenolic style	5	25
3151	TC-treated	Traditional	Straight	Vent	5	25
175 cm² Growth Area Flasks						
431079	TC-treated	Rectangular	Angled	Plug seal	5	50
431080	TC-treated	Rectangular	Angled	Vent	5	50
431085	TC-treated	Rectangular	Angled	Phenolic style	5	50
431306*	TC-treated	Rectangular	Angled	Vent	7	84
431328*	Corning CellBIND	Rectangular	Angled	Vent	7	84
3292	Corning CellBIND	Rectangular	Angled	Vent	5	50
3298	Corning CellBIND	Rectangular	Angled	Phenolic style	5	50
431466	Not treated	Rectangular	Angled	Vent	5	50

*Flask pre-labeled with bar code, validated for use with SelecT™ robotic system.

25 cm² angled neck flask with vent cap (Cat. No. 431082)

225 cm² canted neck flask with vent cap (Cat. No. 3001)

Corning HYPER*Flask* vessel (Cat. No. 10024)

225 cm² Growth Area Flasks

Cat. No.	Surface	Flask Style	Neck Style	Cap Style	Qty/Pk	Qty/Cs
431081	TC-treated	Traditional	Angled	Plug seal	5	25
431082	TC-treated	Traditional	Angled	Vent	5	25
3000	TC-treated	Rectangular	Canted	Phenolic style	4	24
3001	TC-treated	Rectangular	Canted	Vent	4	24
3293	Corning® CellBIND®	Traditional	Angled	Vent	5	25

1720 cm² Growth Area Corning HYPER*Flask*® Vessel

Cat. No.	Description	Surface	Type	Qty/Pk	Qty/Cs
10024	HYPER*Flask* vessel	Corning CellBIND	Bar code, sterile	4	24
10030	HYPER*Flask* M vessel	Corning CellBIND	Bar code, sterile	1	4
10020	HYPER*Flask* M vessel	Corning CellBIND	Bar code, sterile	4	4
10031	HYPER*Flask* M vessel	Not treated	Bar code, sterile	4	24
10034	HYPER*Flask* M vessel	Corning CellBIND	Bar code, sterile	4	24
10035	33 mm caps	N/A	Not vented, sterile	1	4

*Flask pre-labeled with bar code for use with SelecT™ robotic system.

Cell Yields and Recommended Medium Volume

Corning and Costar® Flasks	Approximate Growth Area (cm²)	Average Cell Yield*	Recommended Medium Volume (mL)
25 cm²	25	2.5×10^6	5 - 7.5
75 cm² canted neck	75	7.5×10^6	15 - 22.5
75 cm² straight neck	75	7.5×10^6	15 - 22.5
100 cm²	100	1.0×10^7	20 - 30
150 cm²	150	1.5×10^7	30 - 45
162 cm²	162	1.6×10^7	32 - 48
175 cm²	175	1.75×10^7	35 - 52.5
225 cm²	225	2.25×10^7	45 - 67.5
235 cm²	235	2.35×10^7	47 - 70.5
1720 cm²	1720	2.5×10^8	565

*Assumes an average yield of 1×10^5 cells/cm² from a 100% confluent culture. Yields from many cell types can be lower than this.

Cell Culture Flask Selection Tip

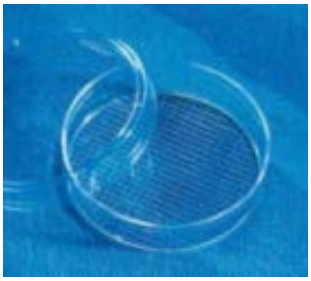
The novel HYPER*Flask* vessel offers high yield and high performance with 10 growth surfaces and 1720 cm² growth area in the same footprint as the 175 cm² flask.

For Falcon® flasks, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

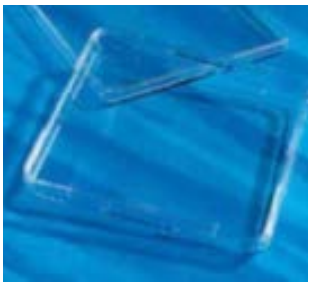
For flasks with other surfaces, see the **Extracellular Matrices, Biologically Coated, and Permeable Support Inserts** section of this catalog.

Cell Culture Dishes

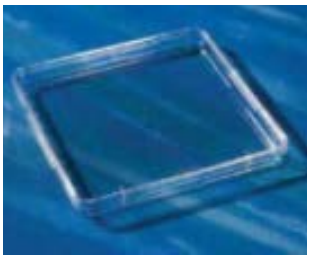
100 mm dishes coated with Corning CellBIND surface (Cat. No. 3296)



Gridded 60 mm dish (Cat. No. 430196)



500 cm² cell culture dish (Cat. No. 431110)



245 mm x 245 mm bioassay dish (Cat. No. 431111)

Treated Cell Culture Dishes

- Corning® CellBIND® surface is a novel cell culture treatment that increases surface wettability for more even and consistent cell attachment
- Ultra-Low Attachment surface dishes feature a covalently bound hydrogel layer that minimizes cell attachment, protein absorption, and cellular activation
- 10 dishes/bag are available for 100 mm dishes (Cat. No. 430293)
- 245 mm square dishes offer 500 cm² growth surface
- Stacking beads aid in handling
- Vents provide consistent gas exchange
- Manufactured from optically clear virgin polystyrene
- Sterile
- Nonpyrogenic

Cat. No.	Surface	Dish Style* (mm)	Approx. Height (mm)	Growth Area (cm²)	Qty/Pk	Qty/Cs
3294	Corning CellBIND	35	10	9	10	210
430165	TC-treated	35	10	9	20	500
430166	TC-treated	60	15	21	20	500
3295	Corning CellBIND	60	15	21	7	126
3261	Ultra-Low Attachment	60	15	21	5	20
3262	Ultra-Low Attachment	100	20	55	5	20
430196	TC-treated	60 with 2 mm grid	15	21	20	500
3296	Corning CellBIND	100	20	152	5	40
430167	TC-treated	100	20	55	20	500
430293	TC-treated	100	20	55	10	480
430599	TC-treated	150	25	150	5	60
431110†	TC-treated	245	25	500	4	16

*Dish style (mm) = actual growth surface diameters: 35 mm dish = 34.4 mm; 60 mm dish = 52.1 mm; 100 mm dish = 83.8 mm; 150 mm dish = 139.1 mm.
†Square dishes with interior bottom dimensions of 224 x 224 mm.

245 mm Square Bioassay Dishes

Square bioassay dishes are made from polystyrene and are nonpyrogenic. They are packed with lids and are designed with a stacking bead so that they will stack securely without slipping. The dishes are compatible with automated colony picking instruments.

Cat. No.	Description	Automation Compatibility	Qty/Pk	Qty/Cs
431111	245 mm x 245 mm, square, 18 mm deep not treated dish, sterile	PBA Flexys™ and Genetix "Q" Bot® automated colony picking and gridding robots	4	16
431272	245 mm x 245 mm, square, 18 mm deep not treated dish, sterile	AutoGen AutoGenesys, BioRobotics BioPick, BioGrid, TAS, and MicroGrid II high volume automated colony picking systems	4	16
431301	245 mm x 245 mm, low profile, not treated dish, sterile	PBA Flexys, Genetix "Q" Bot, BioRobotics BioPick	5	20

Not Treated Cell Culture Dishes

- Manufactured from optically clear virgin polystyrene
- Not treated for applications where cell attachment is not desired
- Stacking beads aid in handling
- Vents provide consistent gas exchange.
- Sterile
- Nonpyrogenic

Cat. No.	Dish Style* (mm)	Height (mm)	Approx. Growth Area (cm^2)	Qty/Pk	Qty/Cs
430588	35	10	9	20	500
430589	60	15	21	20	500
430591	100	20	55	20	500
430597	150	25	152	5	60
431111†	245	25	500	4	16

*Note: Dish style (mm) = actual growth surface diameters: 35 mm dish = 34.4 mm; 60 mm dish = 52.1 mm; 100 mm dish = 83.8 mm; 150 mm dish = 139.1 mm.
†Square dish with interior bottom plate dimensions of 224 x 224 mm.

Cell Culture Dish Application Tips

- The 150 mm and 245 mm culture dishes make excellent carriers and incubator trays for 35 mm and 60 mm dishes. This helps prevent spills and reduces opportunities for contamination.
- Corning recommends 0.2 mL to 0.3 mL of medium per cm^2 of growth area.

Expected Cell Yields and Recommended Medium Volumes

Corning Dishes	Approximate Growth Area (cm^2)	Average Cell Yield*	Recommended Medium Volume (mL)
35 mm	9	9.0×10^5	1.8 - 2.7
60 mm	21	2.1×10^6	4.2 - 6.3
100 mm	55	5.5×10^6	11 - 16.5
150 mm	152	1.52×10^7	30.4 - 45.6
245 mm (square)	500	5.0×10^7	100 - 150

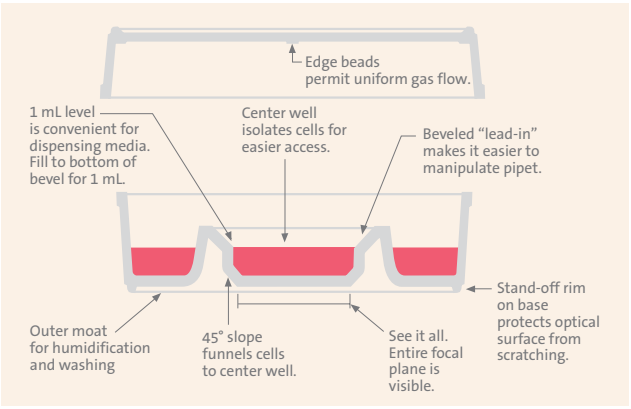
*Assumes an average yield of 1×10^5 cells/cm^2 from a 100% confluent culture. Yields from many cell types can be lower than this.

Costar® 60 mm Center Well Culture Dish

Costar 60 mm center well dish (Cat. No. 3260)

Product is strictly not for human use in *in vitro* fertilization or assisted reproduction procedures. For research only. Not for use in diagnostic or therapeutic procedures.

- 20 mm center well
- Inner well holds 3 mL of medium, while the outer well holds 10 mL
- Treated for optimal cell attachment
- Sterile
- Nonpyrogenic



Cat. No.	Size (mm)	Description (mm)	Center Well (mm)	Qty/Pk	Qty/Cs
3260	60	60 x 15	20	20	500

For IVF products, see the **Falcon® Product Selection Guide** (CLS-F-PSG-001).

For dishes with other surfaces, see the **Extracellular Matrices, Biologically Coated, and Permeable Support Inserts** section of this catalog.

Multiple Well Plates

6-well culture plate
(Cat. No. 3516)

12-well culture plate
(Cat. No. 3513)

24-well culture plate
(Cat. No. 3524)

48-well culture plate
(Cat. No. 3548)

Costar® 6-well, 12-well, 24-well, and 48-well Cell Culture Plates

- Individual alphanumerical codes for well identification, flat bottoms
- Treated for optimal cell attachment (except where noted)
- Corning® CellBIND® surface is a novel cell culture treatment that increases surface wettability for more even and consistent cell attachment.
- Ultra-Low Attachment surface plates feature a covalently bound hydrogel layer that minimizes cell attachment, protein absorption, and cellular activation.
- Corning Osteo Assay surface is an inorganic crystalline coating, creating a surface that mimics *in vivo* bone-like, for *in vitro* bone cell culture and assays.
- Sterile
- Nonpyrogenic

Cat. No.	Surface	Plate Type	Qty/Pk	Qty/Cs
6-well				
3335	Corning CellBIND	Standard clear	5	50
3506	TC-treated	Standard clear	5	100
3516	TC-treated	Standard clear	1	50
3471	Ultra-Low Attachment	Standard clear with hydrogel*	1	24
3736	Not treated	Standard clear	5	100
12-well				
3336	Corning CellBIND	Standard clear	5	50
3512	TC-treated	Standard clear	5	100
3513	TC-treated	Standard clear	1	50
3737	Not treated	Standard clear	5	100
24-well				
3337	Corning CellBIND	Standard clear	5	50
3524	TC-treated	Standard clear	1	100
3526	TC-treated	Standard clear	1	50
3527	TC-treated	Standard clear	5	100
3473	Ultra-Low Attachment	Standard with hydrogel*	1	24
3738	Not treated	Standard clear	5	100
3987	Corning Osteo Assay	Standard clear	1	4
48-well				
3338	Corning CellBIND	Standard clear	5	50
3548	TC-treated	Standard clear	1	100

*This covalently bonded hydrogel surface minimizes cell attachment, protein absorption, enzyme activation, and cellular activation. The surface is noncytotoxic, biologically inert, and nondegradable.

Well Dimensions, Expected Cell Yields, and Recommended Medium Volumes

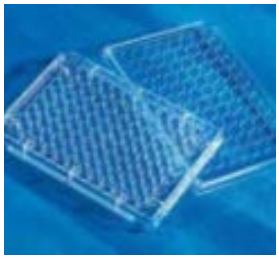
		Single Well Only				Entire Plate		
Cell Culture Plates	Well Bottom Diameter (mm)	Approx. Growth Area (cm^2)	Average Cell Yield*	Total Well Volume (mL)	Working Volume (mL)	Approx. Growth Area (cm^2)	Average Cell Yield*	Working Volume (mL)
6-well	34.8	9.5	9.5×10^5	16.8	1.9 - 2.9	57	5.7×10^6	11.4 - 17.1
12-well	22.1	3.8	3.8×10^5	6.9	0.760 - 1.14	45.6	4.56×10^6	9.1 - 13.7
24-well	15.6	1.9	1.9×10^5	3.4	0.380 - 0.570	45.6	4.56×10^6	9.1 - 13.7
48-well	11	0.95	9.5×10^4	1.6	0.19 - 0.285	45.6	38.4×10^6	9.1 - 13.7

*Assumes an average yield of 1×10^5 cells/cm^2 from a 100% confluent culture. Yields from many cell types can be lower than this.

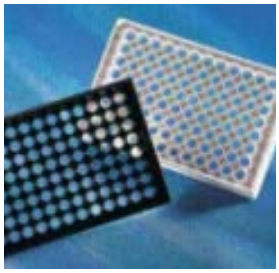
For Falcon® multiple well plates, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

For multiple well plates with other surfaces, see the **Extracellular Matrices, Biologically Coated, and Permeable Support Inserts** section of this catalog.

Cell Culture Microplates



96-well culture microplate



96-well clear-bottom microplates

Corning® 96-well Cell Culture Microplates

- Nonreversable lids with condensation rings to reduce contamination (except where noted)
- Individual alphanumeric codes for well identification, flat bottoms (except where noted)
- Treated for optimal cell attachment (except where noted)
- Sterile
- Nonpyrogenic
- Corning CellBIND® surface is a novel cell culture treatment that increases surface wettability for more even and consistent cell attachment.
- Ultra-Low Attachment surface microplates feature a covalently bound hydrogel layer that minimizes cell attachment, protein absorption and cellular activation.
- Corning Osteo Assay surface is an inorganic crystalline coating, creating a surface that mimics *in vivo* bone, for *in vitro* bone cell assays.
- Corning Poly-D-Lysine (PDL) microplates are coated with PDL (molecular weight range of 70 to 150 kDa) giving the surface a net positive charge for better cell attachment.

Black microplates are designed to lower background in fluorescent assays and reduce cross-talk. White microplates are designed for luminescent assays. Some microplates have the Corning CellBIND surface or a PDL coating to enhance cell attachment. Corning offers many other 96-well microplate types for applications other than cell culture; for a complete listing, visit **www.corning.com/lifesciences.**

96-well Microplate Dimensions, Expected Cell Yields, and Recommended Medium Volume

		Single Well Only				Entire Microplate		
Cell Culture Microplate	Well Diameter (Bottom, mm)	Approx. Growth Area (cm^2)	Average Cell Yield*	Total Well Volume (mL)	Working Volume (mL)	Approx. Growth Area (cm^2)	Average Cell Yield*	Working Volume (mL)
96-well flat bottom	6.4	0.32	3.2×10^4	0.36	0.100 - 0.200	30.7	3.07×10^6	9.6 - 19.2
96-well round bottom	6.4	NA†	NA†	0.33	0.100 - 0.200	NA†	NA†	9.6 - 19.2
96-well V-bottom	6.4	0.38	3.8×10^4	0.29	0.100 - 0.200	36.5	3.65×10^6	9.6 - 19.2
96 half area	4.5	0.16	1.6×10^4	0.19	0.050 - 0.100	15.4	1.54×10^6	4.8 - 9.6

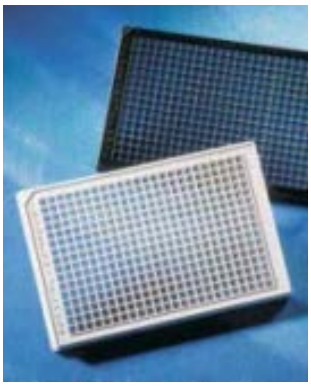
*Assumes an average yield of 1×10^5 cells/cm^2 from a 100% confluent culture. Yields from many cell types can be lower than this.
†Because these wells are round, the surface area available for cell attachment is dependent on the medium volume used.

For Falcon® 96-well microplates, see the **Falcon® Product Selection Guide** (CLS-F-PSG-001).

For 96-well microplates, see the **Microplates** section of this catalog or the **Microplates Product Selection Guide** (CLS-C-DL-MP-014).

For 96-well microplates with other surfaces, see the **Extracellular Matrices, Biologically Coated, and Permeable Support Inserts** section of this catalog.

Corning® 384-well Cell Culture Microplates



- Flat bottoms and lids
- Low volume microplates have only a 50 µL total well volume, with recommended working volume of 5 to 40 µL
- Treated for optimal cell attachment
- Sterile
- Nonpyrogenic

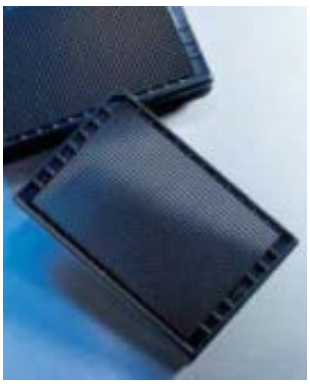
Black microplates are designed to lower background in fluorescent assays and reduce cross-talk. White microplates are designed for luminescent assays. Some microplates have the Corning CellBIND® surface or a Poly-D-Lysine coating to enhance cell attachment. Corning offers many other 384-well microplate types for applications other than cell culture. For a complete listing, visit **www.corning.com/lifesciences.**

384-well Microplate Dimensions, Expected Cell Yields, and Recommended Medium Volumes

		Single Well Only				Entire Microplate		
Cell Culture Microplate	Well Bottom Diameter (mm)	Approx. Growth Area (cm^2)	Average Cell Yield*	Total Well Volume (mL)	Working Volume (mL)	Approx. Growth Area (cm^2)	Average Cell Yield*	Working Volume (mL)
Standard 384-well	2.7 x 2.7†	0.056	5.6×10^3	0.125	0.025 - 0.050	21.5	2.15×10^6	9.6 - 19.2
Low Volume 384-well	2.0	0.031	3.1×10^3	0.050	0.005 - 0.040	12.0	1.2×10^6	1.9 - 15.3

*Assumes an average yield of 1×10^5 cells/cm^2 from a 100% confluent culture. Yields from many cell types can be lower than this.
†These wells are square.

Corning 1536-well Cell Culture Microplates



- Superior performance compared to competitor microplates: lower CV values, higher signal-to-noise ratios, and lower background fluorescence
- Compatible with bar coding, standard readers and automation
- Recommended working volume of up to 8 µL
- Treated for optimal cell attachment
- Flat bottoms and lids
- Sterile
- Nonpyrogenic

Black microplates are designed to lower background in fluorescent assays and reduce cross-talk. White microplates are designed for luminescent assays. Corning offers other 1536-well microplate types for applications other than cell culture. For a complete listing, visit **www.corning.com/lifesciences**.

Well Dimensions, Expected Cell Yields, and Recommended Medium Volumes

		Single Well Only				Entire Microplate		
Cell Culture Microplate	Well Bottom Diameter (mm)	Approx. Growth Area (cm^2)	Average Cell Yield*	Total Well Volume (mL)	Working Volume (mL)	Approx. Growth Area (cm^2)	Average Cell Yield*	Working Volume (mL)
1536-well Clear Flat Bottom	1.63 x 1.63	0.025	2.5×10^3	12.5	5 - 8	38.3	3.8×10^6	7.7 - 15.4
1536-well Solid Flat Bottom	1.53 x 1.53	0.023	2.3×10^3	12.5	5 - 8	35.3	3.5×10^6	7.7 - 15.4

* Assumes an average yield of 1×10^5 cells/cm^2 from a 100% confluent culture. Yields from many cell types can be lower than this.

For Falcon® 384- and 1536-well microplates, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

For 384- and 1536-well microplates, see the **Microplates** section of this catalog or the **Microplates Product Selection Guide** (CLS-C-DL-MP-014).

For 384- and 1536-well microplates with other surfaces, see the **Extracellular Matrices, Biologically Coated, and Permeable Support Inserts** section of this catalog.

Visit **www.corning.com/lifesciences** for additional product and technical information.

Transwell® Permeable Supports

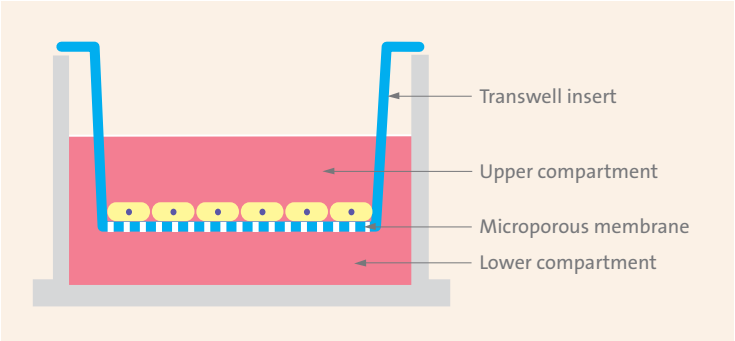
Permeable supports, also known as cell culture inserts, are an essential tool for the study of both anchorage-dependent and independent cell lines.

You can use cell culture inserts to:

- Produce a cell culture environment that closely resembles an in vivo state
- Allow polarized cells to carry out metabolic activities in a more natural manner because the cells feed both apically and basolaterally
- Co-culture cells with or without cell-to-cell contact
- Design a diversity of experiments using various pore sizes, membrane types, and coatings

This selection guide will help you choose the right combination of membrane type, pore size, format, and surface treatment to create a cell culture environment that more closely mimics the *in vivo* environment you desire.

Create a More Natural Environment for Your Cells



The unique, self-centered hanging design of Transwell inserts prevents medium wicking between the insert and outer well. The design also permits access to the lower compartment through windows in the insert wall, as well as undamaged co-culturing of cells in the lower compartment.

Transwell Permeable Supports: a Laboratory Standard

Transwell inserts are convenient, ready-to-use permeable support devices pre-packaged in standard multiple well plates. The unique, self-centered hanging design prevents medium wicking between the insert and outer well. Transwell inserts are available in a wide variety of sizes, membrane types, and configurations, and they are backed by extensive citations, protocols, and technical support—all of which has helped to make them the leading brand of cell culture insert for more than 25 years.

Follow these four steps to select the optimal insert for your research.

1. Select a Membrane

Permeable supports are available in three materials of construction:

PC (Polycarbonate)

Transwell® Permeable Supports are available in a broad range of pore sizes from 0.4 to 8.0 µm. This high pore density membrane is suitable for a variety of applications. It allows for maximum diffusion when studying transport, secretions, or drug uptake.

PET (Polyester or Polyethylene Terephthalate)

Transwell-Clear inserts permit sufficient optical transparency for visualization of cell outlines by phase contrast microscopy.

PTFE (Polytetrafluoroethylene)

Collagen-coated PTFE membranes are available in limited pore sizes (0.4 µm and 3.0 µm). These coated membranes promote cell attachment and allow cells to be visualized during culture.

Consult the product specification tables for more information.

2. Select a Pore Size

In general, smaller pore sizes (0.4 µm and 1.0 µm) are used for culturing cells, co-culture applications, and drug transport studies. Larger pore sizes (3.0 µm to 8.0 µm) are recommended for chemotaxis and angiogenesis applications. Please refer to the Applications guide for more information.

Application	Cell Type	Pore Size (µm)
Angiogenesis	Endothelial, hmvec, huvec	3.0
Co-culture	Stem, neuronal, and various others	0.4, 1.0
Epithelial Cell Polarity	Epithelial cells	0.4
Migration	Endothelial, HUVEC, HMVEC Neutrophils, PMNs Lymphocytes, macrophages, monocytes Neuronal cells Dendritic cells Neurite outgrowth Epithelial fibroblasts Leukocytes Smooth muscle	3.0 3.0 3.0, 5.0 3.0 3.0, 5.0, 8.0 1.0, 3.0 8.0 3.0, 5.0 8.0
Invasion	Melanoma Glioma Lymphoma, Jurkat Osteoblasts Breast cancer Endothelial	8.0 8.0 5.0, 8.0 8.0 5.0, 8.0 3.0, 5.0, 8.0
Tissue Engineering	Human skin model	0.4, 3.0
Toxicity Testing	Mouse fibroblasts Human lung	3.0 0.4
Transport and Permeability Studies	Caco-2 MDCK	0.4, 1.0 0.4, 1 .0

3. Select a Format

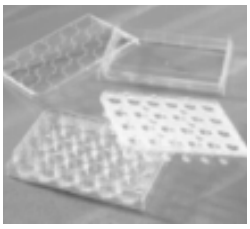
- Individual inserts are used with 6-, 12-, and 24-well multiple well plates. A large, single-well format is also available in a 100 mm dish.
- HTS insert plates are available in either 24- or 96-well formats with special receiver plates and single-well reservoirs to facilitate automation and ease of handling.
- Snapwell™ inserts are designed for use with diffusion or Ussing chambers.
- Netwell® inserts are used as tissue carriers or explants at the air-media interface. The inserts are available in 6- or 12-well plates.

Growth Area Guide for Transwell® Inserts

Insert Diameter (mm)*	Multiple Well Plate or Dish Style	Insert Membrane Growth Area (cm^2)
4.26	96-well	0.143
6.5	24-well	0.33
12	12-well	1.12
24	6-well	4.67
75	100 mm dish	44

*Values are reported as nominal and may vary due to inherent variability of our manufacturing process. To ensure success, we recommend that researchers validate their methods independent from our reported values.

Individual inserts for 6-, 12-, or 24-well plates or 100 mm dishes



HTS insert plates for automation and ease of handling

Snapwell inserts for use in diffusion or Ussing chambers

INDIVIDUAL TRANSWELL® INSERTS

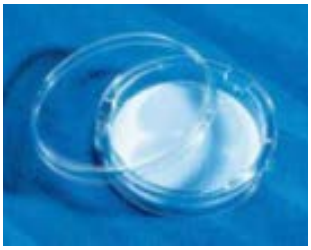
24 mm and 6.5 mm Transwell inserts

Characteristics of Individual Transwell Inserts

Pore Size (µm)	0.4	0.4	3.0	3.0	5.0	8.0	8.0
Membrane	PET	PC	PET	PC	PC	PC	PET
Pore Density	4×10^6	1×10^8	2×10^6	2×10^6	4×10^5	1×10^5	1×10^5
Opacity	Clear	Translucent	Clear	Translucent	Translucent	Translucent	Clear
1-well		■		■			
6-well	■	■	■	■			
12-well	■	■	■	■			
24-well	■	■	■	■	■	■	■

Transwell Polycarbonate (PC) Membrane Inserts

12 mm polycarbonate Transwell inserts (Cat. No. 3401)



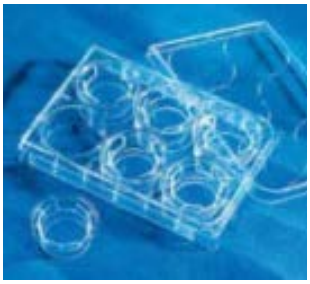
75 mm polycarbonate Transwell insert (Cat. No. 3419)

- 10 µm thick translucent membrane
- Pore sizes ranging from 0.4 µm to 8 µm diameters
- Treated for optimal cell attachment
- Supplied in multiple well plates
- Membrane must be stained for cell visibility
- Sterile

Cat. No.	Description	Membrane Pore Size (µm)	Qty/Pk	Qty/Cs
3412	Inserts in 6-well plates	0.4	6/plate	24
3414	Inserts in 6-well plates	3.0	6/plate	24
3428	Inserts in 6-well plates	8.0	6/plate	24
3401	Inserts in 12-well plates	0.4	12/plate	48
3402	Inserts in 12-well plates	3.0	12/plate	48
3413	Inserts in 24-well plates	0.4	12/plate*	48
3415	Inserts in 24-well plates	3.0	12/plate*	48
3421	Inserts in 24-well plates	5.0	12/plate*	48
3422	Inserts in 24-well plates	8.0	12/plate*	48
3419	Inserts in 100 mm dish	0.4	1/dish	12
3420	Inserts in 100 mm dish	3.0	1/dish	12

*6.5 mm membrane diameter are packaged 12 inserts in a 24 well plate, 4 plates per case.

Transwell-Clear Polyester (PET) Membrane Inserts



24 mm PET Transwell inserts

- 10 µm transparent membrane
- Treated for optimal cell attachment
- Excellent visibility under phase contrast microscopy
- Supplied in multiple well plates
- Sterile

Cat. No.	Description	Membrane Pore Size (µm)	Qty/Pk	Qty/Cs
3450	Inserts in 6-well plates	0.4	6/plate	24
3452	Inserts in 6-well plates	3.0	6/plate	24
3460	Inserts in 12-well plates	0.4	12/plate	48
3462	Inserts in 12-well plates	3.0	12/plate	48
3470	Inserts in 24-well plates	0.4	12/plate*	48
3472	Inserts in 24-well plates	3.0	12/plate*	48
3464	Inserts in 24-well plates	8.0	12/plate*	48

*6.5 mm membrane diameter are packaged 12 inserts in a 24-well plate, 4 plates per case.

Transwell®-COL Collagen-coated Membrane Inserts*

Transwell-COL collagen-coated inserts have a transparent (when wet) collagen-treated PTFE membrane that promotes cell attachment and spreading, while allowing cells to be visualized during culture. The coating process covers each fibril of the matrix, thereby retaining the porosity of the membrane.

- Transparent, Collagen-coated PTFE membrane
- Promotes cell attachment and spreading
- Equimolar mixture of Collagen type I and III
- Individually packaged
- Multiple well plates included in each case
- Sterile

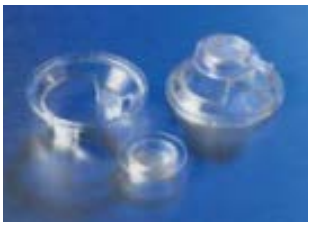
All Transwell-COL Collagen-coated inserts are individually packaged and each case includes the appropriate multiple well plate.

Cat. No.	Description	Membrane Pore Size (µm)	Qty/Pk	Qty/Cs
3491	Inserts and 6-well plates	0.4	1	24
3492	Inserts and 6-well plates	3.0	1	24
3493	Inserts and 12-well plates	0.4	1	24
3494	Inserts and 12-well plates	3.0	1	24
3495**	Inserts and 24-well plates	0.4	1	24
3496**	Inserts and 24-well plates	3.0	1	24

*Includes inserts packaged separately with multiwell plates.
**6.5 mm diameter inserts packaged separately with two 24-well plates.

Snapwell™ Inserts*

Polycarbonate Snapwell Inserts



Polyester Snapwell Inserts

The Snapwell insert is a modified Transwell culture insert that contains a 12 mm diameter tissue culture-treated membrane supported by a detachable ring. The inserts are primarily used for transport and electrophysiological studies. Once cells are grown to confluence, this ring-supported membrane can be placed into either vertical or horizontal diffusion or Ussing chambers.

Characteristics of Snapwell Insert Membranes

Pore Size (µm)	0.4	0.4
Membrane	PET	PC
Pore density	4×10^6	1×10^8
Opacity	Clear	Translucent
Inserts for 6-well plates	■	■

Cat. No.	Description	Membrane Pore Size (µm)	Qty/Pk	Qty/Cs
3407	PC inserts in 6-well plates	0.4	6	24
3801	Clear PET inserts in 6-well plates	0.4	6	24

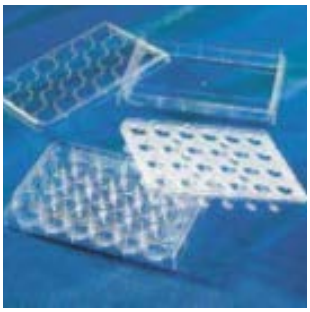
*Diffusion chambers are available through Harvard Apparatus (www.harvardapparatus.com)

For permeable support inserts, see the **Extracellular Matrices, Biologically Coated, and Permeable Support Inserts** section of this catalog.

For Falcon® uncoated individual inserts, see the **Falcon Product Selection Guide** (CLS-F-PSG-001) or the **Permeable Supports Selection Guide** (CLS-CC-027).

TRANSWELL® SUPPORT SYSTEMS

HTS Transwell-24 Permeable Supports



HTS Transwell-24 insert plates

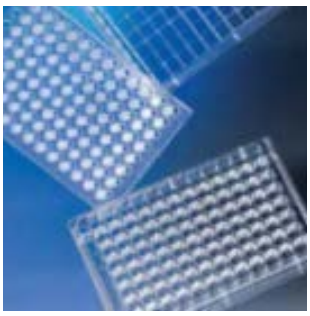
HTS insert plates are arrays of individual cell culture inserts connected by a rigid, robotics-friendly holder. This single-unit design makes insert plates ideal for running automated, high throughput drug transport (Caco-2 cells) cell toxicity studies or cell migration and invasion studies.

- The HTS Transwell-24 permeable support has an array of 24 wells with membrane inserts connected by a rigid, robotics-friendly tray that enables all 24 Transwell supports to be handled as a single unit.
- Cell growth area is 0.33 cm^2/well.
- Choice of either polyester (PET) membrane (0.4 µm pore size) or polycarbonate (PC) membrane (0.4 µm and 3.0 µm pore sizes)
- Treated for optimal cell attachment
- Individual pack has two HTS Transwell-24 units loaded into two open reservoir trays and two individually wrapped 24-well plates.
- Bulk pack has 12 HTS Transwell-24 units loaded into 24-well plates only. Reservoirs may be purchased separately.
- Sterile

Characteristics of HTS Insert Plates

Pore Size (µm)	0.4	0.4	1.0	3.0	5.0	8.0
Membrane	PET	PC	PET	PC	PC	PET
Pore Density	4 x 10^6	1 x 10^8	1.6 x 10^6	2 x 10^6	4 x 10^5	1 x 10^5
Opacity	Clear	Translucent	Clear	Translucent	Translucent	Clear
24-well	■	■	■	■		
96-well		■	■	■	■	■

Cat. No.	Description	Membrane Pore Size (µm)	Qty/Pk	Qty/Cs
3396	HTS Transwell-24, individual, polycarbonate (PC)	0.4	1	2
3397	HTS Transwell-24, bulk, PC	0.4	12	12
3398	HTS Transwell-24, individual, PC	3.0	1	2
3399	HTS Transwell-24, bulk, PC	3.0	12	12
3395	HTS Transwell nontreated reservoir	–	12	48
3378	HTS Transwell-24, bulk, PET	0.4	12	12
3379	HTS Transwell-24, individual, PET	0.4	1	2



HTS Transwell-96 insert plates

HTS Transwell®-96 Permeable Support Systems and Plates

- The HTS Transwell-96 permeable support has an array of 96-wells with membrane inserts connected by a rigid, robotics-friendly tray that enables all 96 inserts to be handled as a single unit.
- Choice of either polyester (PET) membrane (0.4 µm, 1.0 µm, and 8.0 µm pore sizes) or polycarbonate (PC) membrane (0.4 µm, 3.0 µm, and 5.0 µm pore sizes)
- 0.143 cm^2 membrane area per well, providing 20% to 50% more surface area for cell growth than other commercially available systems
- Large apical and basolateral access ports allow efficient media sampling and facilitate automated or manual access.
- Optimized for automation, with multichannel feeder ports, improved gripping surface, and standard bar codes
- The reservoir plate allows for simultaneous feeding of 96 wells and comes with a removable media stabilizer to reduce the risk of spills during handling
- The receiver plate isolates each well to enable 96 individual assays.
- Sterile
- The HTS Transwell-96 systems (0.4 µm PC, 0.4 µm PET, and 1.0 µm PET) are packaged with the 96-well insert plate in a reservoir plate and includes the 96-well receiver plate with lid.
- The HTS Transwell-96 plates (3.0 and 5.0 µm PC, 8.0 µm PET) are packaged with the 96-well insert plate in the 96-well receiver plate with lid. Reservoir plates may be purchased separately.

Cat. No.	Description	Membrane Pore Size (µm)	Qty/ Pk	Qty/ Cs
3381	HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PC	0.4	1	1
3391	HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PC	0.4	1	5
7369	HTS Transwell-96 System reservoir and receiver plates with 2 lids, PET	0.4	5	5
3380	HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PET	1.0	1	1
3392	HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PET	1.0	1	5
3385	HTS Transwell-96 well plate, receiver plate and lid, individual, PC	3.0	1	2
3386	HTS Transwell-96 well plate, receiver plate and lid, bulk, PC	3.0	4	8
3387	HTS Transwell-96 well plate, receiver plate and lid, bulk, PC	5.0	4	8
3388	HTS Transwell-96 well plate, receiver plate and lid, individual, PC	5.0	1	2
3374	HTS Transwell-96 well plate, receiver plate and lid, individual, PET	8.0	1	2
3384	HTS Transwell-96 well plate, receiver plate and lid, bulk, PET	8.0	4	8
3382	HTS Transwell-96 receiver plate with lid, standard tissue culture-treated	–	10	10
3383	HTS Transwell-96 reservoir plate media stabilizer and lid	–	10	10
3583	HTS Transwell-96 black receiver plate with lid, standard tissue culture-treated	–	10	10
3783	HTS Transwell-96 white receiver plate and lid, standard tissue culture-treated	–	10	10

Netwell™ Inserts

Netwell Inserts have polyester (PET) mesh bottoms attached to a polystyrene ring or housing. They are used as tissue carriers, supports and strainers for culture of small organs, tissue slices, or explants at the air-media interface. They can be used to coarse filter tissue homogenates, cell suspensions, or microcarriers. Accessories allow them to be used as a handy carrier for immunocytochemical staining of tissue culture slices.

Characteristics of Netwell Inserts

Mesh Size (µm)	74	440
Mesh Material	PET	PET
Sterile	Yes	Yes
Inserts for 6-, 12-, and 24-well plates	■	■

Cat. No.	Description	Membrane	Membrane Pore Size (µm)	Qty/Pk	Qty/Cs
3477	Inserts in 12-well plates	PET	74	12/plate	48
3478	Inserts in 12-well plates	PET	440	12/plate	48
3479	Inserts in 6-well plates	PET	74	6/plate	48
3480	Inserts in 6-well plates	PET	440	6/plate	48

Netwell Accessories

- Specially designed Netwell carriers and handles allow simultaneous processing of up to 12 samples per carrier
- Polystyrene reagent trays are available in white for colorimetric reaction contrast, or black for better visibility of tissue sections
- Each carrier kit contains eight carriers and eight handles

Cat. No.	Description	Qty/Cs
3517	Netwell reagent tray, black	200
3519	Netwell reagent tray, white	200
3520	Netwell 12-well carrier kit for 15 mm inserts	8
3521	Netwell 6-well carrier kit, for 24 mm inserts	8

Culture Tubes

- Manufactured from optically clear polystyrene
- Threaded plug seal caps prevent leakage
- Tissue culture-treated tubes supplied racked
- Untreated tubes supplied bulk packed
- Sterile
- Nonpyrogenic

Cat. No.	Treated	Size (mm)	Cap Style	Qty/Pk	Qty/Cs
430157	No	16 x 125	Screw top	25	500
430172	Yes	16 x 125	Screw top	50	500

For Falcon® tubes, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Cell Scrapers and Lifters

Cell lifter (Cat. No. 3008)

Cell scraper, small (Cat. No. 3010)

- Useful for the manual harvesting of cells
- Blade design minimizes cell damage and ensures even contact with the growth surface.
- Cell lifter is useful for harvesting cells (especially stem cells) in dishes.
- Cell scrapers designed for use in flasks
- Individually wrapped
- Sterile
- Nonpyrogenic

Cat. No.	Description	Blade Length (cm)	Handle Length (cm)	Qty/Pk	Qty/Cs
3008	Cell lifter	1.9	18	1	100
3010	Cell scraper, small	1.8	25	1	100
3011	Cell scraper, large	3.0	39	1	100

For Falcon cell scrapers, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Cryogenic Vials and Accessories


External thread cryogenic vials

External Thread Cryogenic Vials

- Manufactured from polypropylene to withstand temperatures down to -196°C
- Black graduations with large white marking spot
- Vials have a silicone washer for a secure seal.
- Vials may be color-coded with inserts.
- Self-standing vials have a special base design, allowing them to be locked into cryogenic rack and tray (Cat. Nos. 430525 or 431131) for single-handed manipulation.
- Free foam rack with each case
- RNase-/DNase-free
- Sterile
- Nonpyrogenic

Cat. No.	Capacity (mL)	Style	Self-Standing	Qty/Pk	Qty/Cs
430658	1.2	Conical bottom	Yes	50	500
430659	2.0	Round bottom	Yes	50	500
430661	2.0	Round bottom	No	50	500
430662	4.0	Round bottom	Yes	50	500
430663	5.0	Round bottom	Yes	50	500


Internal thread cryogenic vials

Internal Thread Cryogenic Vials

- Manufactured from polypropylene to withstand temperatures down to -196°C
- Black graduations with large marking spot
- Vials have a silicone washer for a secure seal.
- 2 mL self-standing vials are available in five cap colors.
- Vials may be color coded with inserts (see below).
- Self-standing vials have a special base design allowing them to be locked into cryogenic rack and tray (Cat. Nos. 430525 or 431131) for single-handed manipulation.
- Free foam rack with each case
- RNase-/DNase-free
- Sterile
- Nonpyrogenic


Internal thread color cap cryogenic vials

Internal Thread Color Cap Cryogenic Vials

Cat. No.	Cap Color	Capacity (mL)	Style	Self-standing	Type	Qty/Pk	Qty/Cs
431416	Assorted	2.0	Round bottom	Yes	Washer	50	500
431417	Yellow	2.0	Round bottom	Yes	Washer	50	500
431418	Blue	2.0	Round bottom	Yes	Washer	50	500
431419	Green	2.0	Round bottom	Yes	Washer	50	500
431420	Red	2.0	Round bottom	Yes	Washer	50	500
431421	White	2.0	Round bottom	Yes	Washer	50	500

Cryogenic Vial Safety Tip

Appropriate safety equipment (gloves, face shields, biological safety cabinets, hoods, etc.) should always be used to protect personnel when removing vials or ampules from cryogenic storage systems.

Warning: Do not use cryogenic vials for storage in the liquid phase of liquid nitrogen. Only store vials in the vapor phase above the liquified gas. Always use appropriate safety equipment when removing vials from cryogenic storage.

Internal Thread Orange Cap Cryogenic Vials

Cat. No.	Capacity (mL)	Style	Self-standing	Type	Qty/Pk	Qty/Cs
430487	1.2	Conical bottom	Yes	Washer	50	500
430488	2.0	Round bottom	Yes	Washer	50	500
430489	2.0	Round bottom	No	Washer	50	500
430490	4.0	Round bottom	No	Washer	50	500
430491	4.0	Round bottom	Yes	Washer	50	500
430492	5.0	Round bottom	No	Washer	50	500
430656	5.0	Round bottom	Yes	Washer	50	500
431386	2.0	Round bottom	Yes	Washer	50	250

Warning! Do not use cryogenic vials for storage in the liquid phase of liquid nitrogen. Only store vials in the vapor phase above the liquified gas. Always use appropriate safety equipment when removing vials from cryogenic storage.

Cap Inserts for Cryogenic Vials

Assorted colors of polypropylene cap inserts

- Cap inserts provide color coding for easy sample identification.
- Inserts are packaged in resealable bags.
- Nonsterile
- Cap inserts fit all Corning® cryogenic vials.

Cat. No.	Description	Qty/Pk	Qty/Cs
430499	Assorted colors, polypropylene cap inserts: 100 each of white, blue, red, green, and yellow	50	500
2015	White polypropylene cap inserts	50	500
2016	Blue polypropylene cap inserts	50	500
2017	Red polypropylene cap inserts	50	500
2018	Green polypropylene cap inserts	50	500
2019	Yellow polypropylene cap inserts	50	500

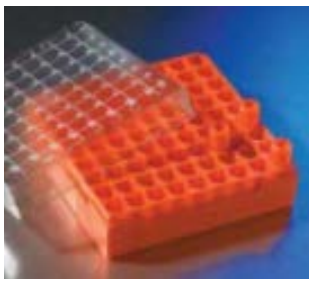
Cryogenic Vial Racks and Storage Boxes

Cryogenic vial racks

- Reusable racks are designed for use with most cryogenic vials
- Cat. No. 430525 has a locking feature for use with all Corning self-standing vials

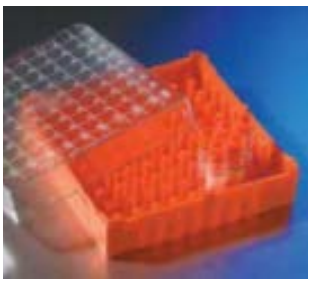
Cat. No.	Description	Qty/Pk	Qty/Cs
430525	Polycarbonate rack and tray, holds 30 vials; self-locking design in ice/water bath	1	1
430526	Polycarbonate rack only, holds 30 vials; self-locking design	1	1
431131	Reusable orange polypropylene vial rack, holds 50 vials, self-locking design	2	2
431119	81 count (9 x 9 array) cryogenic box, for 1 to 2 mL vials	5	10
431120	81 count (9 x 9 array) cryogenic box, for 4 to 5 mL vials	5	10
431121*	100 count (10 x 10 array) cryogenic box, for 1 to 2 mL vials	5	10

*431121 accepts internally threaded cryogenic vials only.



Cryogenic storage box (Cat. No. 431119)

Cryogenic storage box (Cat. No. 431120)



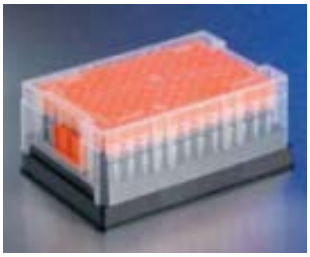
Cryogenic storage box (Cat. No. 431121)

Corning® 96 1D/2D Bar Coded Cryogenic Vials

A System Solution for Automated Sample Management

The 1D/2D storage line offers a superior storage solution designed to provide maximum identification. Features include:

- Temperature-resistant polypropylene vials withstand temperatures down to -196°C.
- Maximum identification – Synchronized 2D and linear bar code along with marking spot
- Maximum information – 14 x 14 dot 2D bar code
- Bar code stability – Laser-etched for permanent identification
- Compound compatibility – Universal inert polypropylene construction throughout



Cryogenic Vials

Cat. No.	Description	Qty/Pk	Pk/Cs	Qty/Cs
8500	96 1D/2D bar coded cryogenic vials, 1.3 mL, without screw caps, bulk pack	96	10	960 tubes
8501	96 1D/2D bar coded cryogenic vials, 1.3 mL, without screw caps, racked, with cover	96/rack	10 racks	960 tubes
8502	96 1D/2D bar coded cryogenic vials, 1.3 mL, with screw caps, bulk pack	96	10	960 tubes
8503	96 1D/2D bar coded cryogenic vials, 1.3 mL, with screw caps, racked, with cover	96/rack	10 racks	960 tubes

Compatible Caps and Rack

8504	96 cryogenic vial screw cap, polypropylene with O-ring, bulk pack	96	50	4,800 caps
8505	96 cryogenic vial screw cap, polypropylene, with O-ring, on mat, 96 caps per mat, clear, with cover	480	10	4,800 caps
8506	Thermoplastic elastomer 96 cryogenic vial septum cap, bulk pack	96	100	9,600 caps
8507	Thermoplastic elastomer 96 cryogenic vial septum cap on mat, 96 caps per mat	960	5	4,800 caps
8508	Empty racks with lids for 96 screw capped or thermoplastic elastomers capped cryogenic vials	5 racks	2	10 racks

Corning 384 Bar Coded Cryogenic Vials

A System Solution for Automated Sample Management

The 2D storage line offers a superior storage solution designed to provide maximum identification.

- Maximum information – 14 x 14 dot 2D bar code
- Bar code stability – Laser-etched for permanent identification
- Compound compatibility – Universal inert polypropylene construction throughout

Cryogenic Vials

Cat. No.	Description	Qty/Pk	Pk/Cs	Qty/Cs
8509	384 2D bar coded cryogenic vials, round, without plug caps, racked	384/rack	20	7,680
8510	384 2D bar coded cryogenic vials, square, racked	384/rack	20	7,680

Compatible Caps and Rack

8511	384 cryogenic vials plug cap for round tube, bulk pack	384	100	38,400
8512	384 cryogenic vials plug cap on mats for round tube, 384 caps per mat	3,840	10	38,400
8513	Empty racks with lids for 384 round or square cryogenic vials	1 rack	20	20

Technical Appendix

Corning® Cell Culture Surfaces

Introduction

Corning currently offers six polystyrene-based surfaces (Table 1) for growing cells, including the Corning CellBIND® surface.

Most of these early plastic vessels were made from polystyrene, a long carbon chain polymer with benzene rings attached to every other carbon. Polystyrene was chosen because it has excellent optical clarity, is easy to mold and is relatively inexpensive. However, it also has one significant drawback: it is a very hydrophobic (non-wettable) polymer to which cells have difficulty attaching. Fortunately, the surface of polystyrene can be easily modified by a variety of chemical (sulfuric acid) and physical (corona discharge, gas-plasma, or irradiation) methods. Using these methods, hydroxyl, ketone, aldehyde, carboxyl, and amine groups can readily be grafted onto the polymer (Figure 1). These groups modify the surface characteristics changing the uncharged hydrophobic surface into a more ionic hydrophilic surface. Polystyrene can also be modified through chemical reactions to allow the covalent attachment of a variety of reactive groups that can be used for the subsequent covalent immobilization of biomolecules. For additional information, please check the technical section of our website.

Corning CellBIND Surface

The Corning CellBIND surface is designed to improve cell attachment under difficult conditions, such as reduced-serum or serum-free medium, resulting in higher cell yields. It is also useful for growing "difficult" cells such as primary cultures or transfected cells over expressing proteins. Developed by Corning scientists, this technology uses a novel microwave plasma process for treating the culture surface. This process improves cell attachment by incorporating significantly more oxygen into the cell culture surface than traditional plasma or corona discharge treatments, rendering it more hydrophilic (wettable) and increasing the stability of the surface.

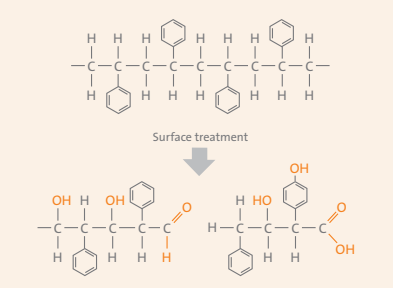


Figure 1. Polystyrene can be surface-modified by the addition of a variety of different chemical groups, by breaking the carbon chain backbone, or by opening the benzene ring (not shown).

Unlike biological coatings, the Corning CellBIND surface is a nonbiological surface that requires no special handling or storage. Because the polymer is treated, rather than coated, the surface is more consistent and stable.

Corning CellBIND surface benefits:

- Quickly adapts cells to reduced-serum or serum-free conditions
- May eliminate the need for tedious, time-consuming, expensive, and low stability biological coatings
- Stable at room temperature, requires no refrigeration, or special handling
- Gives more consistent and even cell attachment for difficult to attach cell lines, especially transfected cells
- Reduces premature cell detachment from confluent cultures especially in roller bottles and during cell-based assays

The Corning CellBIND surface is available on flasks, multiple well plates, Corning CellSTACK® culture chambers, roller bottles, 96-well microplates, 384-well microplates, and dishes.

Corning Synthemax® Self-coating Substrate

The Corning Synthemax II-SC Substrate is a peptide-copolymer powder that readily dissolves in water, for use as a cell adhesion promoting surface coating for various stem cell lines. Corning Synthemax II-SC Substrate can be coated onto any culture vessel format providing additional flexibility to end users.

Table 1. Corning Cell Culture Surfaces

Corning Surface	Binding Interaction	Sample Properties
Corning CellBIND surface-modified polystyrene	Hydrophilic and ionic (negatively charged)	Improves cell attachment and binding to polystyrene
Standard tissue culture-treated polystyrene	Hydrophilic and ionic (negatively charged)	Allows cell attachment and binding to polystyrene
Untreated polystyrene	Hydrophobic	Significantly reduces the attachment of most cells
Ultra-Low Attachment-coated polystyrene	Hydrophilic and non-ionic	Hydrogel layer prevents the attachment of almost all cells
Poly-D-Lysine-coated polystyrene	Hydrophilic and ionic (positively charged)	Improves cell attachment and binding to polystyrene
Synthemax® II-SC substrate	Synthetic peptide surface coating	Mimics cells' natural environment with extracellular matrix-derived cell adhesion promoting peptide
Corning Osteo Assay surface	Crystalline calcium phosphate coating	Mimics *in vivo* bone-like surface for *in vitro* bone cell assays

Corning® Osteo Assay Surface

The Corning Osteo Assay surface is an inorganic crystalline calcium phosphate coating on a polystyrene plate designed to mimic *in vivo* bone environment. The surface is intended to facilitate a variety of bone cell assays including immunofluorescent staining, tartrate resistant acid phosphatase (TRAP), and surface resorption assays for osteoclasts. The surface is available in a convenient, ready-to-use, sterile, multiple well plate, 1 x 8 Corning Stripwell™ microplate, and is stable at room temperature.

The Osteo Assay surface is useful for:

- Cell growth and differentiation of precursor cells to osteoclast or blast
- Direct readout of osteoclast and osteoblast cell function and differentiation assays such as TRAP staining, pit resorption, and bone nodule formation
- Targeted drug screening for bone cell activity
- Real time imaging for high content analysis
- Quantitative assay for enzymatic activity by sampling the cell culture supernatant
- Ideal for bone and metastatic cells co-cultures (Figure 2)

Figure 2. Corning Osteo Assay surface promotes co-culture of metastatic breast cancer cell line, MDA MB231 (small light pink stained cells) and multi-nucleated osteoclast (dark pink)

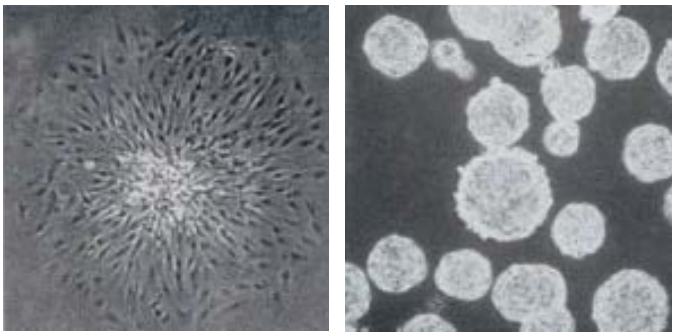


Figure 3. Single-cell-derived colonies of C6 glioma cells grow as flattened attached colonies in standard tissue culture-treated surface (left panel) but form unattached spherical colonies on the Ultra-Low Attachment surface (right panel).

Corning Ultra-Low Attachment-coated Polystyrene Surface

The Ultra-Low Attachment surface is a covalently bound hydrogel layer that is hydrophilic and neutrally charged. Since proteins and other biomolecules passively adsorb to polystyrene surfaces through either hydrophobic or ionic interactions, this hydrogel surface naturally inhibits nonspecific immobilization via these forces, thus inhibiting subsequent cell attachment. This surface is very stable, noncytotoxic, biologically inert, and nondegradable. Corning offers the Ultra-Low Attachment surface on dishes, plates, flasks, and Corning CellSTACK® culture chamber 1-stack.

This Ultra-Low Attachment surface has been shown to successfully inhibit attachment of anchorage dependent MDCK, Vero, and C6 cells grown for a period of time equal to that necessary to obtain confluent cell growth on the control surface (standard tissue culture-treated polystyrene (Figure 3). This surface has also been shown to inhibit the attachment and activation of macrophages and neutrophils.

Ultra-Low Attachment surface culture vessels are useful for:

- Studying tissue-specific functions of certain cancer cells (i.e., MCF-7 breast cancer cells)
- Preventing stem cells from attachment-mediated differentiation
- Selectively culturing tumor or virally transformed cells as unattached colonies (substitute for soft agar assays)

Poly-D-Lysine-coated Surface

Some assays and procedures require enhanced binding of cells to polystyrene. Corning Poly-D-Lysine (PDL) microplates are coated with PDL (molecular weight range of 70 kDa to 150 kDa) by a proprietary method. This synthetic polymeric coating creates a uniform net positive charge on the plastic surface which, for some cell types, can enhance cell attachment, growth, and differentiation, especially in serum-free and low serum conditions. PDL surfaces often improve attachment and growth of primary neurons, glial cells, neuroblastomas, and a variety of transfected cell lines, including HEK-293. Corning offers Poly-D-Lysine-coated 96-well and 384-well microplates

Standard Tissue Culture-treated Polystyrene Surface

Standard Corning polystyrene cell culture vessels are surface modified using either corona discharge (flasks, dishes, and microplates) or gas-plasma (roller bottles and culture tubes). These processes generate highly energetic oxygen ions which graft onto the surface polystyrene chains (Figure 1) so that the surface becomes hydrophilic and negatively charged when placed in medium. Corning offers the standard tissue culture-treated surface on flasks, dishes, multiple well plates, CellSTACK culture chambers, roller bottles, and culture tubes.

Untreated Polystyrene Surface

Natural, unmodified polystyrene surfaces are hydrophobic and only bind cells and biomolecules through passive hydrophobic interactions. Corning offers untreated polystyrene culture dishes and microplates for growing cells in stationary suspension or other applications where reduced cell attachment is desired. However, these untreated vessels are sterilized by low-dose gamma irradiation, which slightly increases the wettability of the surface. Since some transformed cell lines (CHO-K1, for example) and macrophages will attach and grow on these hydrophobic surfaces, Corning also offers an Ultra-Low Attachment surface for use in situations where cell attachment must be kept to an absolute minimum.

Characteristics of Corning® Plasticware

Portions of this table courtesy of Modern Plastics Encyclopedia. Most data are from tests by A.S.T.M. methods. Tables show averages or ranges. Many properties vary with manufacturer, formulation, testing laboratory, and the specific operating conditions.

	Polystyrene	Polyethylene (High Density)	Polypropylene	Polycarbonate	Nylon	Polytetra-fluorethylene (PTFE)	Polyethylene Terephthalate (PET)
Physical Characteristics							
Basic Properties	Biologically inert, hard, excellent optical qualities	Biologically inert, high chemical resistance	Biologically inert, high chemical resistance, exceptional toughness	Clear, very tough, inert, high temperature resistance	Tough, heat resistant, machinable, high moisture vapor transmission	Biologically and chemically inert, high resistant slippery surface	Biologically inert, hard, tough, excellent optical qualities
Clarity	Clear	Opaque	Translucent	Clear	Opaque	Opaque	Clear
Autoclave Results	Melts	May	Withstands distort	Withstands several cycles	OK one cycle	OK	Melts
Heat Distortion Point	147°F - 175°F 64°C - 80°C	250°F 121°C	275°F 135°C	280°F - 290°F 138°C - 143°C	300°F - 356°F 150°C - 180°C	250°F 121°C	158°F 70°C
Burning Rate	Slow	Slow	Slow	Self-extinguishing	Self-extinguishing	None	–
Effects of Laboratory Reagents							
Weak Acids	None	None	None	None	None	None	None
Strong Acids	Oxidizing acids attack	Oxidizing acids attack	Oxidizing acids attack	May be attacked	Attacked	None	Oxidizing acids attack
Weak Alkalies	None	None	None	None	None	None	None
Strong Alkalies	None	None	None	Slowly attacked	None	None	Attacked
Organic Solvents	Soluble in aromatic chlorinated hydrocarbons	Resistant below 80°C	Resistant below 80°C	Soluble in chlorinated hydrocarbons; partly soluble in aromatics	Resistant	Resistant	Soluble in aromatic or chlorinated hydrocarbons
Gas Permeability of Thin Wall Products*							
O_2	Low	High	High	Very low	Very low	–	Very low
N_2	Very low	Low	Low	Very low	Very low	–	Very low
CO_2	High	Very high	Very high	Low	–	–	Low

*Obtained from a table which lists gas permeability in CC/100 sq. inches per 24 hr/mil.

Equipment

Liquid Handling Equipment

Corning® Lambda® Plus Starter Kit

The Corning Lambda Plus starter kit contains four Lambda Plus single-channel pipettors conveniently packaged with useful accessories (manual, calibration key, color-coded rings, tube of piston grease, and identification stickers). The kit includes:

- Cat. No. 4071 Lambda Plus single-channel pipettor, 0.5 to 10 µL
- Cat. No. 4072 Lambda Plus single-channel pipettor, 2 to 20 µL
- Cat. No. 4074 Lambda Plus single-channel pipettor, 20 to 200 µL
- Cat. No. 4075 Lambda Plus single-channel pipettor, 100 to 1000 µL
- Cat. No. 4078 Universal carousel rack for six single-channel pipettors
- Corning DeckWorks™ Pipet Tips:
  Cat. No. 4135 (10 µL), Cat. No. 4138 (200 mL), and Cat. No. 4140 (1000 µL)

Cat. No.	Description	Qty/Pk	Qty/Cs
4069	Lambda Plus starter kit	1 kit	1 kit

Corning Lambda Plus single-channel pipettor

Corning Lambda Plus Single-channel, 8-channel, and 12-channel Pipettors

Corning Lambda Plus pipettors have been engineered to provide the highest levels of accuracy, reproducibility, and comfort. Available in single-, eight-, and twelve-channel configurations, all Lambda Plus pipettors feature smooth plunger movement and extremely low pipetting forces. Volume can be set by turning either the thumb wheel or the plunger button, and a locking mechanism prevents accidental change.

The Lambda Plus pipettors have been designed to maintain their calibration, even after repeated use and autoclaving. A key is included with each pipettor for easy in-house calibration.

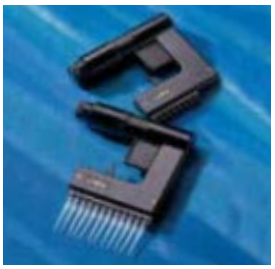
- Factory calibrated to strict ISO 8655 standards
- 3-year warranty
- Fully autoclavable and UV resistant
- Designed for universal fit with all common brands of pipet tips
- Adjustable tip ejector

Corning Lambda Plus 8-channel and 12-channel pipettor

Cat. No.	Volume Range (µL)	Channels	Accuracy (%)	Precision (%)	Tip (µL)	Qty/Cs
4070	0.2 - 2.0	1	±12 to ±1.5	<6.0 to <0.7	10	1
4071	0.5 - 10	1	±4.0 to ±0.5	<4.0 to <0.4	10	1
4072	2 - 20	1	±4.0 to ±0.8	<3.0 to <0.4	200	1
4073	10 - 100	1	±1.6 to ±0.8	<0.8 to <0.3	200	1
4074	20 - 200	1	±1.2 to ±0.6	<0.6 to <0.3	200	1
4075	100 - 1,000	1	±1.0 to ±0.6	<0.45 to <0.25	1,000	1
4080	1 - 10	8	±8.0 to ±2.0	<6.0 to <1.2	10	1
4081	5 - 50	8	±4.0 to ±1.6	<2.5 to <0.6	200	1
4082	20 - 200	8	±3.0 to ±1.0	<1.5 to <0.6	200	1
4083	50 - 300	8	±1.6 to ±1.0	<1.5 to <0.6	200/300	1
4084	1 - 10	12	±8.0 to ±2.0	<6.0 to <1.2	10	1
4085	5 - 50	12	±4.0 to ±1.6	<2.5 to <0.6	200	1
4086	20 - 200	12	±3.0 to ±1.0	<1.5 to <0.6	200	1
4087	50 - 300	12	±1.6 to ±1.0	<1.5 to <0.6	200/300	1

Accessories for Corning Lambda Plus Pipettors

4078	Universal carousel rack for six single-channel pipettors
4079	Universal linear rack for six pipettors (six single-channel, maximum of four 8-channel or 12-channel pipettors)
4088	8-channel or 12-channel pipettor stand. Holds one Lambda Plus 8-channel or 12-channel pipettor



Costar® 8-Pette® and 12-Pette® Multi-channel Pipettors

These multi-channel pipettors feature a unique, ergonomic trigger-style aspiration and dispense control mechanism designed to reduce thumb fatigue during repetitive pipetting. Volume range is 20 µL to 200 µL and can be adjusted with a vernier-scale spindle. Autoclavable.

Cat. No.	Volume Range (µL)	Channels	Qty/Pk	Qty/Cs
4880	20 - 200	12	1	1
4888	20 - 200	8	1	1

Stripettor Plus pipetting controller with pipet

Stripettor Plus pipetting controller in charging position

Stripettor Plus pipetting controller in storage position

Corning® Stripettor™ Plus Pipetting Controller

The Corning Stripettor Plus is comfortable, lightweight, and designed for use with most brands of serological pipets. Speed range is adjustable via a control wheel on the back of the instrument, and aspirating and dispensing can be finely controlled by the pressure-sensitive buttons. A convenient wall hanger, charging stand, and spare filters are included with the Stripettor Plus, and when fully charged, the high capacity Lithium-Ion battery allows continuous pipetting for up to 4.5 hours. A battery indicator light lets the user know when it is time to recharge; the Stripettor Plus can be used while charging. The charging stand allows storage on its back, even with pipet inserted.

- Ergonomic, comfortable design
- Wall hanger, charging stand, charging power supply, and spare filters included
- Variable speed range and pressure sensitive control buttons
- Settings for blow out or slow “gravity” dispensing
- Compatible with pipets from 1 mL to 100 mL
- Includes hydrophobic, PTFE 0.2 µm filters
- Fast aspiration and dispensing speed at highest setting: 25 mL in 2.5 seconds
- Lithium-Ion battery provides 4.5 hours of continuous use

Cat. No.	Description	Plug Type	Voltage	Qty/Cs
4090	Stripettor Plus with three 0.2 µm filters, wall hanger, and charger	US	120V, 50/60Hz	1
4091	Stripettor Plus with three 0.2 µm filters, wall hanger, and charger	EU	230V, 50/60Hz	1
4092	Stripettor Plus with three 0.2 µm filters, wall hanger, and charger	UK	230V, 50/60Hz	1
4093	Stripettor Plus with three 0.2 µm filters, wall hanger, and charger	JP	100V, 50/60Hz	1

Accessories

Cat. No.	Description	Qty/Cs
4094	PTFE autoclavable filter, 0.2 µm	5
4095	PTFE autoclavable filter, 0.45 µm	5
4096	Replacement silicone pipet holder	1

For Corning DeckWorks™ Reload Systems and Stripette® serological pipets, see the **Liquid Handling** section of this catalog.

For the Falcon® pipet controller, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Costar® Reagent Reservoirs

Costar reagent reservoirs are ideal for repetitively filling multi-channel pipettors.

- Manufactured from modified polystyrene
- Sterile
- Disposable

Cat No.	Volume (mL)	Color	Qty/Pk	Qty/Cs
4870	50	White	5	200
4871	50	White	1	100
4872	100	White	5	200
4873	100	White	1	100

Costar Aspirator Device and Accessories

Cat. No.	Description	Qty/Pk	Qty/Cs
4930	Aspirator device (includes hand piece, grommet for accessory attachment, and single-channel adapter for use with disposable pipet tips)	1	1
4931	8-channel adapter for use with disposable pipet tips	1	1
9016	Aspirating pipet, without graduations, unplugged, sterile, paper/plastic wrapped	50	500

Costar Transtar-96® Liquid Transfer System

- The Costar Transtar-96 system is a portable, autoclavable liquid handling device for use with 96 well plates
- A sterile 96 tip disposable cartridge, which loads into the Transtar system, enables liquids to be aspirated, transferred, and dispensed over a volume range of 25 to 200 µL in 5 µL increments
- The Transtar-96 system is ideal for changing cell culture media and screening monoclonal antibodies
- Transtar-96 system accuracy is rated at ±5% at all volume levels

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
7605	Transtar-96, adjustable-volume pipettor	N/A	1	1
7606	Transtar elevator	N/A	1	1
7610	Transtar disposable cartridges	Yes	1	24
4876	Transtar disposable reservoir liner, open	Yes	1	100
4877	Transtar disposable reservoir liner, 12-channel	Yes	1	100
4878	Transtar disposable reservoir liner, 8-channel	Yes	1	100

Centrifugation Equipment

Corning® LSE™ Mini Microcentrifuge

The Corning LSE mini microcentrifuge is a personal benchtop instrument designed for quick spin downs of micro-samples. Operation is simple and convenient. After loading sample tubes, close the lid and the rotor accelerates quickly to 6,000 rpm (2,000 x g). This speed range is ideal for bringing small droplets to the bottom of the tubes, micro-filtrations, or basic separations. Press the lid release button and rotor comes to a stop.

The LSE mini microcentrifuge includes an 8-place rotor that will accept standard 1.5 mL to 2.0 mL microcentrifuge tubes, and adapters are included for 0.5/0.4 mL and 0.2 mL tubes. Also included is a 4-place rotor for PCR strip tubes.

- Compact, lightweight, and easy-to-use
- Close the lid to start, press the lid release button to stop.
- 8 x 1.5/2.0 mL rotor and 4-place strip tube rotors included
- Fixed speed of 6,000 rpm generates 2,000 x g.

Cat. No.	Description	Voltage	Plug Type	Qty/Cs
6765	LSE mini microcentrifuge	120V, 50/60Hz	US	1
6766	LSE mini microcentrifuge	230V, 50/60Hz	EU	1
6767	LSE mini microcentrifuge	230V, 50/60Hz	UK	1

Corning LSE High Speed Microcentrifuge

The Corning LSE high speed microcentrifuge features an easy-to-use, digital control interface, and high-speed performance for quick nucleic acid and protein separations. Two control knobs are used to precisely set rotor speed and run time, and parameters are shown on the easy-to-read LED displays. Press the “Speed/G-force” knob to toggle the display between rpm and calculated g-force.

The LSE high speed microcentrifuge incorporates a brushless drive and unique air cooling system to both reduce noise and minimize sample heating even during prolonged runs at maximum speed.

- Fast acceleration to a maximum speed 13,300 rpm/16,300 x g
- Complete with easy access, 24 x 1.5/2.0 mL rotor
- Precise, digital control system
- Set and view rotor speed in rpm or g-force
- Quiet and cool running, even at maximum speed

Cat. No.	Description	Voltage	Plug Type	Speed (rpm)	Weight	Dimensions (H x W x D)	Qty/Cs
6765-HS	LSE high speed microcentrifuge	120V, 50/60Hz	US	500 - 13,300	18 lbs (8.1 kg)	9.25 x 11.5 x 8.5 in. (23.5 x 29.3 x 21.6 cm)	1
6766-HS	LSE high speed microcentrifuge	230V, 50/60Hz	EU	500 - 13,300	18 lbs (8.1 kg)	9.25 x 11.5 x 8.5 in. (23.5 x 29.3 x 21.6 cm)	1
6767-HS	LSE high speed microcentrifuge	230V, 50/60Hz	UK	500 - 13,300	18 lbs (8.1 kg)	9.25 x 11.5 x 8.5 in. (23.5 x 29.3 x 21.6 cm)	1
6768-HS	LSE high speed microcentrifuge	100V, 50/60Hz	JP	500 - 13,300	18 lbs (8.1 kg)	9.25 x 11.5 x 8.5 in. (23.5 x 29.3 x 21.6 cm)	1

Accessories

Cat. No.	Description	Qty/Pk
480134	Individual adaptors for 0.5/0.4 mL tubes	6
480165	Individual adaptors for 0.2 mL tubes	6

Corning® LSE™ Compact Centrifuge

The Corning LSE compact centrifuge is a space saving centrifuge ideal for use in life science and industrial research labs.

Four angle rotors are available for this centrifuge, including an innovative combination rotor designed by Corning to allow for greater versatility. This multi-purpose rotor can accommodate various tube sizes including a 5 mL microcentrifuge tube, as well as round and conical bottom 15 mL and 50 mL centrifuge tubes. Tubes are inserted at an increased fixed angle to allow for improved efficiency of cellular pelleting. An equal g-force is applied to the samples when spinning 15 mL and 50 mL tubes simultaneously. In addition, the LSE compact centrifuge can accommodate a swing-out rotor for 6 x 5 mL.

The centrifuge's control panel features a large digital display and a convenient turn knob for setting parameter values. An internal microprocessor maintains precise control over operation with ten levels of acceleration and deceleration and a speed range from 200 rpm to 6,000 rpm. For safety considerations, the centrifuge is equipped with an electronic lid lock system, over speed protection, and an automatic shut off imbalance detection system.

- Maximum capacity: 6 x 50 mL
- Maximum speed: 6,000 rpm/4,185 x g
- Accepts both conical and round bottom tubes
- Space saving footprint: 11" x 14.6" x 10"

Cat. No.	Description	Voltage	Plug Type	Speed (rpm)	Weight (kg)	Dimensions (L x W x D)	Qty/Cs
6755	LSE compact centrifuge	120V, 50/60Hz	US	200 - 6,000	33 lbs (15 kg)	11 x 14.6 x 10.2 in. (28 x 37 x 26 cm)	1
6756	LSE compact centrifuge	100V, 50/60Hz	US	200 - 6,000	33 lbs (15 kg)	11 x 14.6 x 10.2 in. (28 x 37 x 26 cm)	1
6758	LSE compact centrifuge	230V, 50/60Hz	UK	200 - 6,000	33 lbs (15 kg)	11 x 14.6 x 10.2 in. (28 x 37 x 26 cm)	1
6759	LSE compact centrifuge	230V, 50/60Hz	EU	200 - 6,000	33 lbs (15 kg)	11 x 14.6 x 10.2 in. (28 x 37 x 26 cm)	1

Rotors

Cat. No.	Description	Max. Speed (rpm)	Max. RCF	Qty/Cs
480136	LSE 6 x 50 mL fixed angle rotor	6,000	3,820	1
480137	LSE 12 x 15 mL fixed angle rotor	6,000	4,180	1
480138	LSE 6 x 5 mL swing-out rotor	3,500	1,450	1
480139	LSE 18 x 1.5 mL fixed angle rotor	6,000	2,930	1
480143	LSE combination rotor for 5, 15, and 50 mL tubes	6,000	3,820	1

Adapters

Cat. No.	Description	Qty/Cs
480140	LSE adapters for 10 and 15 mL tubes in 50 mL rotor	6
480141	LSE adapters for 5 and 7 mL tubes in 50 mL rotor	6
480142	LSE adapters for 5, 7, and 10 mL tubes in 15 mL rotor	6

6 x 50 mL fixed angle rotor (Cat. No. 480136)

12 x 15 mL fixed angle rotor (Cat. No. 480137)

6 x 5 mL swing-out rotor (Cat. No. 480138)

18 x 1.5 mL fixed angle rotor (Cat. No. 480139)

Combination rotor (Cat. No. 480143)

Agitation Equipment

Corning® LSE™ Vortex Mixer

The Corning LSE variable speed vortex mixer provides fast, efficient mixing with minimal vibration. The unit features a powerful, counter-balanced motor drive, and continuous or "touch" mix modes. A range of accessories are available for all common sample tubes and containers.

- Variable speed for gentle to vigorous mixing
- Optimized counter balance for minimal vibration
- Lightweight and portable
- Includes cup head for all standard microtubes and centrifuge tubes
- Mix a variety of tubes and plates with optional accessory heads
- Touch and continuous mix modes

Accessory heads for Corning LSE vortex mixer

Cat. No.	Description	Voltage	Plug Type	Speed (rpm)	Weight	Dimensions (L x W x D)	Qty/Cs
6775	LSE vortex mixer	120V, 50/60Hz	US	0 - 3,400	4.8 lbs (2.2 kg)	5.5 x 6.3 x 5.1 in. (14 x 16 x 13 cm)	1
6776	LSE vortex mixer	230V, 50/60Hz	EU	0 - 2,850	4.8 lbs (2.2 kg)	5.5 x 6.3 x 5.1 in. (14 x 16 x 13 cm)	1
6777	LSE vortex mixer	230V, 50/60Hz	UK	0 - 2,850	4.8 lbs (2.2 kg)	5.5 x 6.3 x 5.1 in. (14 x 16 x 13 cm)	1
6778	LSE vortex mixer	100V, 50/60Hz	JP	0 - 2,850	4.8 lbs (2.2 kg)	5.5 x 6.3 x 5.1 in. (14 x 16 x 13 cm)	1

Accessories

Cat. No.	Description	Qty/Cs
480100	Optional head, 3 inch, for processing larger numbers of tubes	1
480101	Optional head for 24 x 1.5/2.0 mL tubes, 24 x 0.5 mL tubes, and 32 x 0.2 mL tubes (or 4 tube strips)	1
480102	Optional head for 1 microplate, or 64 x 0.2 mL tubes, or 8 x 0.2 mL tube strips	1
480103	Optional head for 8 x 15 mL and 8 x 12/13 mm diameter tubes	1
480104	Optional head attachment for 6 x 50 mL tubes	1
480105	Optional head for 12 x 1.5/2.0 mL tubes, held horizontally	1
480106	Optional head for 4 x 15 mL tubes, held horizontally	1
480107	Optional head for 2 x 50 mL tubes, held horizontally	1

Corning LSE Digital Microplate Shaker

The Corning LSE digital microplate shaker features digital control of shaking speed and run time. A single control knob is used to set parameters, and values are shown on a large 3-digit display. A sturdy base encloses the motor for quiet, vibration-free operation.

The included stainless steel platform accommodates up to 4 microplates (standard or deep well), and the shaker is safe for use in temperature controlled environments from 4°C to 65°C.

- Large capacity – process up to 4 microplates
- 3 mm orbit for resuspending, homogenizing, or vortexing
- Large digital display with single-knob control of speed time
- Suitable for cold room or incubator use

Cat. No.	Description	Voltage	Plug Type	Speed (rpm)	Weight	Dimensions (L x W x D)	Qty/Cs
6780-4	LSE digital microplate shaker	120V, 50/60Hz	US	100 - 1,400	9.5 lbs (4.3 kg)	6.6 x 10.98 x 6 in. (16.8 x 27.9 x 15.3 cm)	1
6781-4	LSE digital microplate shaker	230V, 50/60Hz	EU	100 - 1,200	9.5 lbs (4.3 kg)	6.6 x 10.98 x 6 in. (16.8 x 27.9 x 15.3 cm)	1
6782-4	LSE digital microplate shaker	230V, 50/60Hz	UK	100 - 1,200	9.5 lbs (4.3 kg)	6.6 x 10.98 x 6 in. (16.8 x 27.9 x 15.3 cm)	1

Corning® LSE™ Low Speed Orbital Shaker

The Corning LSE low speed orbital shaker includes a 30 x 30 cm platform and is ideal for staining and destaining gels, washing blots and general mixing applications. Speed can be set from 3 to 60 rpm and the timer can be set for up to 2 hours or for continuous operation.

- Ideal for staining and washing of fragile gels
- Gentle motion prevents foaming of liquids
- Simple analog control with easy-turn knobs
- 19 mm orbit for blotting, gel staining, and general mixing
- Safe for cold room and incubator use

Cat. No.	Description	Voltage	Plug Type	Speed (rpm)	Weight	Dimensions (L x W x D)	Qty/Cs
6780-FP	LSE low speed orbital shaker	120V, 50/60Hz	US	3 - 60	11 lbs (5 kg)	10 x 12.6 x 6.3 in. (25.5 x 32 x 16 cm)	1
6781-FP	LSE low speed orbital shaker	230V, 50/60Hz	EU	3 - 60	11 lbs (5 kg)	10 x 12.6 x 6.3 in. (25.5 x 32 x 16 cm)	1
6782-FP	LSE low speed orbital shaker	230V, 50/60Hz	UK	3 - 60	11 lbs (5 kg)	10 x 12.6 x 6.3 in. (25.5 x 32 x 16 cm)	1

Corning LSE Orbital Shaker

Orbital shaker with optional clamps and flasks

The Corning LSE orbital shaker meets a variety of shaking and mixing applications. A powerful brushless motor and counter-balanced shaker mechanism provides smooth operation for years of trouble-free use. Different platforms (order separately) are available and are easily interchangeable.

- Two stainless steel platform options
- 19 mm orbit for aeration of cultures and staining gels
- Large digital display with single-knob control
- Digital control of shaking speed and time
- Safe for cold room or incubator use
- Maximum capacity: 4 x 1L, 5 x 500 mL, 9 x 250 mL, or 16 x 125 mL

Cat. No.	Description	Voltage	Plug Type	Speed (rpm)	Weight	Dimensions (L x W x D)	Qty/Cs
6780-NP	LSE orbital shaker	120V, 50/60Hz	US	20 - 300	16 lbs (7.3 kg)	10.1 x 12.5 x 5 in. (25.6 x 31.8 x 12.7 cm)	1
6781-NP	LSE orbital shaker	230V, 50/60Hz	EU	20 - 300	16 lbs (7.3 kg)	10.1 x 12.5 x 5 in. (25.6 x 31.8 x 12.7 cm)	1
6782-NP	LSE orbital shaker	230V, 50/60Hz	UK	20 - 300	16 lbs (7.3 kg)	10.1 x 12.5 x 5 in. (25.6 x 31.8 x 12.7 cm)	1

Accessories

Cat. No.	Description	Qty/Cs
480108	Flat platform with rubber mat	1
480109	Flask clamp platform (without clamps)	1
480110	Clamp for 25 mL flask	1
480111	Clamp for 50 mL flask	1
480112	Clamp for 125 mL flask	1
480113	Clamp for 250 mL flask	1
480114	Clamp for 500 mL flask	1
480115	Clamp for 1L flask	1

For a full listing of polycarbonate Erlenmeyer baffled flasks, see the **Bioprocess** section of this catalog.

Constant Temperature Equipment

Single block digital dry bath heater

Double block digital dry bath heater

Digital dry bath heater accessories

Corning® LSE™ Digital Dry Bath Heater

A broad temperature range to 150°C makes Corning LSE digital dry bath heaters useful for a variety of applications in molecular biology, histology, clinical, environmental, and industrial laboratories. Models are available for one or two sample blocks, and a variety of blocks are available for different sample containers. Temperature is accurately controlled by a microprocessor and shown on a large 4-digit LED display.

- Microprocessor control with large digital display
- Temperature accuracy of ±0.3°C and uniformity of ±0.2°C
- Wide temperature set range from ambient +5°C to 150°C
- Corrosion-resistant block cavity

Cat. No.	Description	Block Capacity	Voltage	Plug	Weight	Dimensions (L x W x D)	Qty/Cs
6785-SB	LSE digital dry bath	Single	120V, 50/60Hz	US	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6786-SB	LSE digital dry bath	Single	230V, 50/60Hz	EU	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6787-SB	LSE digital dry bath	Single	230V, 50/60Hz	UK	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6788-SB	LSE digital dry bath	Single	100V, 50/60Hz	JP	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6785-DB	LSE digital dry bath	Double	120V, 50/60Hz	US	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6786-DB	LSE digital dry bath	Double	230V, 50/60Hz	EU	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6787-DB	LSE digital dry bath	Double	230V, 50/60Hz	UK	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1
6788-DB	LSE digital dry bath	Double	100V, 50/60Hz	JP	4.8 lbs (2.2 kg)	7.9 x 10.4 x 3.3 in. (20 x 26.5 x 8.3 cm)	1

Accessories

Cat. No.	Description	Qty/Cs
480116	Single block, 48 x 0.2 mL PCR tubes or 6 x 0.2 mL strips	1
480117	Single block, 24 x 2.0 mL tubes	1
480118	Single block, 24 x 0.5 mL tubes	1
480119	Single block, 24 x 1.5 mL tubes	1
480120	Single block, 35 x 6 mm tubes	1
480121	Single block, 20 x 10 mm tubes	1
480122	Single block, 20 x 12 mm tubes	1
480123	Single block, 20 x 13 mm tubes	1
480124	Single block, 12 x 15 mL centrifuge tubes	1
480125	Single block, 12 x 16 mm tubes	1
480126	Single block, 12 x 17 mm tubes	1
480127	Single block, 6 x 20 mm tubes	1
480128	Single block, 6 x 25 mm tubes	1
480129	Single block, 5 x 50 mL centrifuge tubes (for single block unit only)	1
480130	Single block, 96-well PCR plate, skirted or nonskirted	1
480131	Dual block, 96-well multiple well plate or 4 slides (for dual block unit only)	1
480132	Dual block, 96-well PCR plate, skirted, or nonskirted (for dual block unit only)	1
480133	Dual block, 384-well PCR plate (for dual block unit only)	1

Corning® Digital Hot Plates, Stirrers, and Stirring Hot Plates

Corning digital hot plates, stirrers, and stirring hot plates are made with the same durability and quality Corning has been putting into Pyroceram® top products since 1964. All models include a Pyroceram top and a two-year warranty.

- Twin display stirring hot plate shows both temperature and stirring speed on separate digital displays to ensure accuracy
- Temperature accuracy within ±2°C and stirring speeds at ±5% of the speed setting you choose
- Digital displays indicate when set temperature and stirring speeds are reached
- Safety indicators – power button and hot top indicators warn if unit is plugged in or is too hot to touch
- Angled front panel and large knobs minimize damage from spills
- PC-400D/410D/420D top plate size: 5 x 7 inches (12.7 x 17.8 cm)
- PC-600D/610D/620D top plate size: 10 x 10 inches (25.4 x 25.4 cm)

Model PC-400D

Model PC-410D

Model PC-420D

Digital Hot Plates

Cat. No.	Model	Voltage	Temperature Range	Dimensions (L x W x D)
6795-400D	PC-400D	120V/60Hz	5°C - 550°C	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6795-600D	PC-600D	120V/60Hz	5°C - 550°C	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6796-400D*	PC-400D	230V/50Hz	5°C - 550°C	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6796-600D*	PC-600D	230V/50Hz	5°C - 550°C	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6797-400D	PC-400D	100V/60Hz	5°C - 550°C	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6797-600D	PC-600D	100V/60Hz	5°C - 550°C	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6798-400D	PC-400D	230V/50Hz	5°C - 550°C	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6798-600D	PC-600D	230V/50Hz	5°C - 550°C	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)

Digital Stirrers

Cat. No.	Model	Voltage	Stir Range (rpm)	Dimensions (L x W x D)
6795-410D	PC-410D	120V/60Hz	60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6795-610D	PC-610D	120V/60Hz	60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6796-410D*	PC-410D	230V/50Hz	60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6796-610D*	PC-610D	230V/50Hz	60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6797-410D	PC-410D	100V/60Hz	60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6797-610D	PC-610D	100V/60Hz	60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6798-410D	PC-410D	230V/50Hz	60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6798-610D	PC-610D	230V/50Hz	60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)

Digital Stirring Hot Plates

Cat. No.	Model	Voltage*	Temperature/ Stir Range (rpm)	Dimensions (L x W x D)
6795-420D	PC-420D	120V/60Hz	5°C - 550°C/60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6795-420KIT†	PC-420D	120V/60Hz	5°C - 550°C/60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6795-620D	PC-620D	120V/60Hz	5°C - 550°C/60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6795-620KIT†	PC-620D	120V/60Hz	5°C - 550°C/60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6796-420D*	PC-420D	230V/50Hz	5°C - 550°C/60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6796-620D*	PC-620D	230V/50Hz	5°C - 550°C/60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6797-420D	PC-420D	100V/60Hz	5°C - 550°C/60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6797-620D	PC-620D	100V/60Hz	5°C - 550°C/60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)
6798-420D	PC-420D	230V/50Hz	5°C - 550°C/60 - 1,150	4.3 x 7.7 x 11 in. (10.8 x 19.7 x 28 cm)
6798-620D	PC-620D	230V/50Hz	5°C - 550°C/60 - 1,150	4.6 x 7.7 x 15.4 in. (11.75 x 19.7 x 39.1 cm)

†6795-420KIT and 6795-620KIT include the 120V stirring hot plate plus temperature controller, support rod, and stir bar retriever.

*CE

HOT PLATES

PC-200 Hot Plates

Corning's exclusive glass-ceramic Pyroceram® top is standard.

- Micro-chemistry size
- Hot top indicator light
- 2-year warranty

Cat. No.	Model	Power	Top Size	Temperature	Weight	Dimensions (H x W x D)
6795-200	PC-200	120V/60Hz/ 253W/2.1A	4" x 5"	77°F - 1,022°F (25°C - 550°C)	4 lbs (1.8 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)
6796-200*	PC-200	230V/50Hz/ 253W/1.1A	4" x 5"	77°F - 1,022°F (25°C - 550°C)	4 lbs (1.8 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)
6797-200	PC-200	100V/60Hz/ 253W/2.1A	4" x 5"	77°F - 1,022°F (25°C - 550°C)	4 lbs (1.8 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)

*230 volt 6796 hot plate comes with UK plug.

Corning® Scholar® PC-170 Hot Plates

An economically priced hot plate that has a white enameled steel top plate that provides heat transfer up to 360°C. Dual heat shields dissipate heat and keep the case cool to the touch.

- Compact, saves on bench space
- UL/CUL approved
- 1-year warranty

Cat. No.	Model	Power	Top Size	Temperature	Weight	Dimensions (H x W x D)
6795-170	PC-170	120V/60Hz/ 250W/2.1A	5" x 5"	77°F - 672°F (25°C - 360°C)	3 lbs (1.3 kg)	4 x 5 x 5 in. (10.2 x 12.7 x 12.7 cm)
6796-170	PC-170	230V/50Hz/ 250W/1.1A	5" x 5"	77°F - 672°F (25°C - 360°C)	3 lbs (1.3 kg)	4 x 5 x 5 in. (10.2 x 12.7 x 12.7 cm)
6797-170	PC-170	100V/60Hz/ 250W/2.5A	5" x 5"	77°F - 672°F (25°C - 360°C)	3 lbs (1.3 kg)	4 x 5 x 5 in. (10.2 x 12.7 x 12.7 cm)

*230 volt 6796 hot plate comes with UK plug.

STIRRING HOT PLATES

PC-220 Hot Plate/Stirrers

Hot plate/stirrer units come with Corning's exclusive Pyroceram top.

- Micro-chemistry size
- Hot top indicator light
- Glass ceramic top
- 2-year warranty

Cat. No.	Model	Power	Top Size	Stir Range (rpm)	Temperature	Weight	Dimensions (L x W x D)
6795-220	PC-220	120V/60Hz/ 283W/2.4A	4"x 5"	60 - 1,100	77°F - 1,022°F (25°C - 550°C)	5.0 lbs (2.3 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)
6796-220*	PC-220	230V/50Hz/ 288W/1.3A	4"x 5"	60 - 1,100	77°F - 1,022°F (25°C - 550°C)	5.0 lbs (2.3 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)
6797-220	PC-220	100V/60Hz/ 280W/2.8A	4"x 5"	60 - 1,100	77°F - 1,022°F (25°C - 550°C)	5.0 lbs (2.3 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)

*230 volt 6796 hot plate/stirrer comes with UK plug.

STIRRERS

PC-210 Stirrers

PC-210 stirrers come with Corning's exclusive Pyroceram® top.

- Micro-chemistry size
- 2-year warranty

Cat. No.	Model	Power	Top Size	Stir Range (rpm)	Weight	Dimensions (L x W x D)
6795-210	PC-210	120V/60Hz/ 33W/0.3A	4" x 5"	60 - 1,100	4.5 lbs (2 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)
6796-210*	PC-210	230V/50Hz/ 38W/0.17A	4" x 5"	60 - 1,100	4.5 lbs (2 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)
6797-210	PC-210	100V/60Hz/ 30W/0.3A	4" x 5"	60 - 1,100	4.5 lbs (2 kg)	4.4 x 5.8 x 7.3 in. (11.2 x 14.7 x 18.5 cm)

*230 volt 6796 stirrer comes with UK plug.

PC-611 Stirrer

The PC-611 is designed to stir large volumes of liquid with ease. The stirrer is designed for 5 gallon vessels (19L) but can stir up to 10 gallons. This powerful stirring is achieved with a very compact design that conserves bench space. The stirrer uses a magnet that is constructed out of rare earth metals for exceptional coupling strength. The magnet's strength also centers the stir bar quickly inside the vessel. Heavy duty motor and rugged plastic (ABS) top will provide years of reliable service. UL/CUL approved, one year warranty. Special features: The PC-611 achieves vigorous stirring with a more compact unit at a lower cost than competitive units. This high volume stirrer can handle many applications that previously required an overhead stirrer.

Cat. No.	Model	Power	Top Size	Stir Range (rpm)	Weight	Dimensions (L x W x D)
6795-611	PC-611	120V/50-60Hz/ 144W/1.2A	11" x 11"	100 - 1,500	11.0 lbs (5 kg)	4.8 x 12.0 x 14.4 in. (1.9 x 4.7 x 5.7 cm)

Corning® Scholar® PC-171 Stirrer

The Corning Scholar PC-171 stirrer provides compact design, vigorous stirring with alternating current motor for longer life and rugged construction. UL/CUL approved, 1-year warranty.

Cat. No.	Model	Power	Top Size	Stir Range (rpm)	Weight	Dimensions (L x W x D)
6795-171	PC-171	120V/60Hz/ 29W/.24A	5" x 5"	100 - 1,600	4 lbs (1.8 kg)	3.2 x 5.0 x 5.0 in. (1.3 x 2 x 2 cm)

SS2I Stirrer

One-position slow speed stirrer with integral control to accommodate up to a 2L vessel. One-position model allows the user to spend less and save valuable bench space compared to multiple-position units. Integral speed control and glass-filled resin platform material.

Cat. No.	Model	Power	Speed Range (rpm)	No. Pos.	Nom. Stir Vol. per Pos.	Max. Vessel Diam. (mm)	Dimensions (mm) (L x W x D)	Weight (kg)	Motor Type
440811	SS2I	120V/ 60H	10 - 150	1	2L	150	150 x 150 x 70	0.9	DC, stepper

SS10I Stirrer

One-position slow speed stirrer with integral control to accommodate up to a 10L vessel. Smooth reliable stirring at slow speeds helps promote healthy cell growth. Integral speed control and glass-filled resin platform material.

Cat. No.	Model	Power	Speed Range (rpm)	No. Pos.	Nom. Stir Vol. per Pos.	Max. Vessel Diam. (mm)	Dimensions (mm) (L x W x D)	Weight (kg)	Motor Type
440812	SS10I	120V/ 60Hz	10 - 150	1	10L	280	260 x 260 x 70	2.6	DC, stepper

SS4I Stirrer

Four-position slow speed stirrer with integral control to accommodate up to four 1L vessels. Multiple positions allow the user to duplicate stirring conditions in up to four vessels. Integral speed control and glass-filled resin platform material.

Cat. No.	Model	Power	Speed Range (rpm)	No. Pos.	Nom. Stir Vol. per Pos.	Max. Vessel Diam. (mm)	Dimensions (mm) (L x W x D)	Weight (kg)	Motor Type
440814	SS4I	120V/ 60Hz	10 - 150	4	1L	130	260 x 260 x 70	3	DC, stepper

MP4I, MP5I, and MP9I Multiple Position Stirrers with Integral Control

Corning now offers stirrers that stir up to nine vessels at the same time. These stirring platforms come in 4-, 5-, and 9-position models. The unit's magnets and DC motor provide smooth, well-coupled stirring up to 2,000 rpm. The speed of all positions on the units is set simultaneously with the integral knob. Integral speed control and glass-filled resin platform material.

Cat. No.	Model	Power	Speed Range (rpm)	No. Pos.	Nom. Stir Vol. per Pos.	Max. Vessel Diam. (mm)	Dimensions (mm) (L x W x D)	Weight (kg)	Motor Type
440824	MP4I	120V/ 60Hz	350 - 2,000	4	1L	130	260 x 260 x 70	3.1	DC
440825	MP5I	120V/ 60Hz	350 - 2,000	5	400 mL	95	260 x 260 x 70	3.2	DC
440826	MP9I	120V/ 60Hz	350 - 2,000	9	250 mL	75	260 x 260 x 70	3.8	DC

Stir Bars and Stir Bar Retriever

Corning® magnetic stir bars are polytetrafluorethylene (PTFE)-coated for increased chemical resistance. The Corning stir bar retriever contains a strong magnet to remove a stir bar from all glass and plastic containers used in the laboratory. The container must be taken off the magnetic stirrer before using the retriever as the high powered magnet in the stirrer cancels out the one in the retriever. The handle is designed for ergonomic and easy retrieval.

Cat. No.	Description	Use with Model	Qty/Pk	Qty/Cs
400430	Stir bar, 3/8" x 2"	PC-610/620	1	1
401435	Stir bar, 3/8" x 1"	PC-210/220/410/420	1	1
6970SR	Magnetic stir bar retriever	All Corning stirrers and hot plate/stirrers	1	1

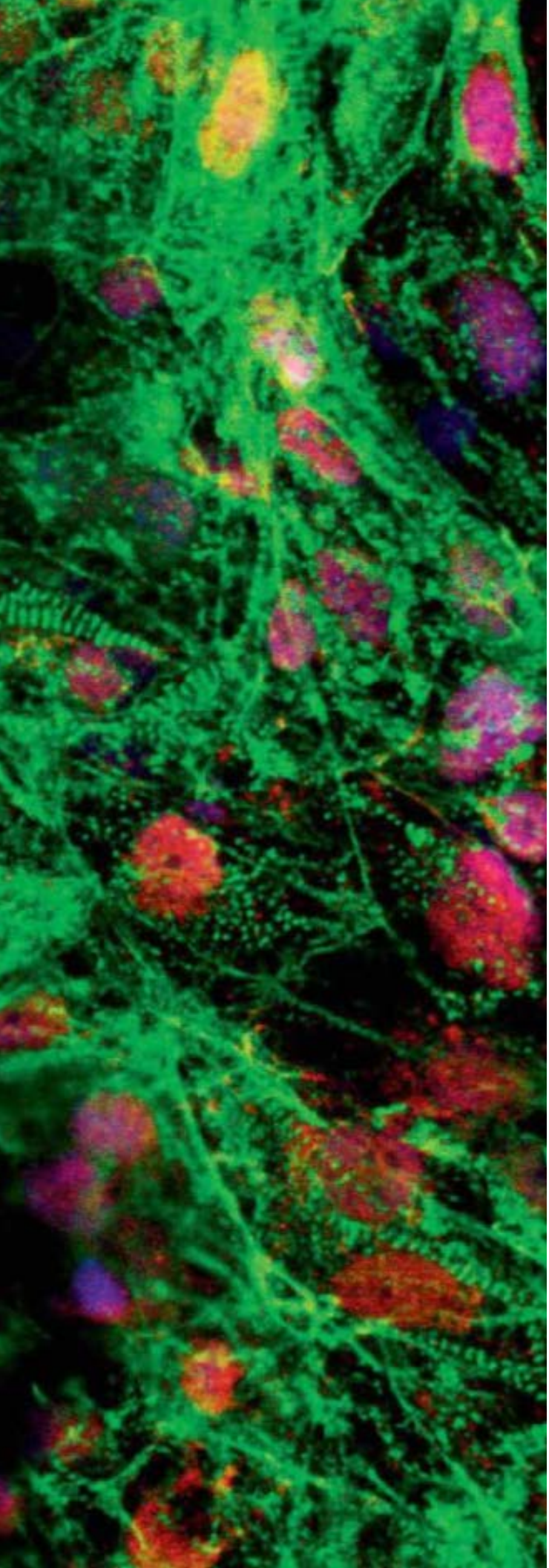
Temperature Controller and Accessories

Digital hot plate accessories

When used with the digital hot plate or stirring hot plate, the external temperature controller ensures precision temperature accuracy of the liquid inside the vessel as opposed to the temperature of the hot plate top.

Cat. No.	Description	Use with Model
6795-PR*	Temperature controller for digital hot plates and stirring hot plates	PC-400D/420D/600D/620D
6795KIT	Accessory kit Includes: External temperature controller (Cat. No. 6795PR), 18" support rods (Cat. No. 440129), and stir bar retriever (Cat. No. 6970SR)	PC-400D/420D/600D/620D
440129	Stainless steel support rod, two 9" (45.7 cm) rods, 5/16" diameter. Rods can be screwed together to 18"	All digital and PC-200/210/220/ 400/410/420
409831	Stainless steel support rod, 24" (61.0 cm), 7/16" diameter	PC-600/610/620
400084	Stainless steel support rod, 12" (30.5 cm), 5/16" diameter	All digital and PC-200/210/220/ 400/410/420
440140†	Boss head clamp for use with 5/16" support rod and holding rod	All hot plates with 5/16" or smaller support rod
440141	Holding rod, thermocouple, stainless steel	All hot plates

*Temperature controllers are not available for use with stirrer only units.
†Bosshead clamps to support rod; holding rod connects to bosshead. Temperature controller slides into holding rod.



Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts

Corning® Extracellular Matrices (ECMs)

Corning extracellular matrices (ECMs) enable researchers to mimic *in vivo* environments for 2D and 3D cell culture applications. Products include Corning Matrigel® matrix, purified ECMs, and Corning BioCoat™ pre-coated cultureware.

Corning Matrigel® Matrix

Corning Matrigel matrix is a solubilized basement membrane preparation extracted from the Engelbreth-Holm-Swarm (EHS) mouse sarcoma, a tumor rich in extracellular matrix proteins, including Laminin (a major component), Collagen IV, heparin sulfate proteoglycans, entactin/nidogen, and a number of growth factors.

Cat. No.	Description	Size (mL)	Qty/Cs
356234	Matrigel basement membrane matrix, LDEV-free	5	1
354234	Matrigel basement membrane matrix, LDEV-free	10	1
356235	Matrigel basement membrane matrix, LDEV-free, 50 mL (10 x 5 mL)	5	10
356230	Matrigel matrix, growth factor reduced (GFR), LDEV-free	5	1
354230	Matrigel matrix, growth factor reduced (GFR), LDEV-free	10	1
356231	Matrigel matrix, growth factor reduced (GFR), phenol red-free, LDEV-free	10	1
356237	Matrigel matrix, phenol red-free, LDEV-free	10	1
354248	Matrigel matrix, high concentration (HC), LDEV-free	10	1
354263	Matrigel matrix, high concentration (HC), GFR, LDEV-free	10	1
354262	Matrigel matrix, high concentration (HC), phenol red-free, LDEV-free	10	1
354277	Matrigel hESC-qualified matrix, LDEV-free	5	1

Corning Collagen

Corning offers a broad range of collagen types that are derived from multiple species. These collagens have been used to culture a variety of cell types to promote adhesion, growth, and/or differentiation.

Cat. No.	Description	Size	Qty/Cs
354231	Collagen I, bovine	30 mg	1
354243	Collagen I, human	0.25 mg	1
354265	Collagen I, human	10 mg	1
354236	Collagen I, rat tail	100 mg	1
354249	Collagen I, rat tail, high concentration	100 mg	1
356236	Collagen I, rat tail, 1 g (10 x 100 mg)	100 mg	10
354257	Collagen II, bovine	5 mg	1
354244	Collagen III, human	0.25 mg	1
354245	Collagen IV, human	0.25 mg	1
354233	Collagen IV, mouse	1 mg	1
356233	Collagen IV, mouse, 10 mg (10 x 1 mg)	10 mg	10
354246	Collagen V, human	0.25 mg	1
354261	Collagen VI, human	500 µg	1

Corning Laminin

Laminin is a major component of basement membranes. It has numerous biological activities including promotion of cell adhesion, migration, chemotaxis, growth, and differentiation, including neurite outgrowth.

Cat. No.	Description	Size (mg)	Qty/Cs
354232	Laminin, mouse	1	1
354259	Laminin/Entactin high concentration	10.5	1
354239	Corning UltraPure™ Laminin, mouse	1	1

Corning® rLaminin-521 (Human)

Corning rLaminin-521 is the next generation pluripotent stem cell (PSC) surface that enables researchers to streamline culture workflow, lower contamination risk, and scale-up efficiently. Corning has partnered with BioLamina for the supply of recombinant human Laminin 521 (rLaminin-521), a biocompatible, full length Laminin that enables feeder-free, clump-free, single-cell passaging of PSCs without ROCK-inhibitor.

Cat. No.	Description	Size (µg)	Qty/Cs
354220	rLaminin-521 (Human)	20	1
354221	rLaminin-521 (Human)	100	1
354222	rLaminin-521 (Human), 1 mg (10 x 100 µg)	100	10
354223	rLaminin-521 (Human), 5 mg (50 x 100 µg)	100	50

Corning Fibronectin

The principal functions of fibronectin appear to be in cellular migration during wound healing and development, regulation of cell growth and differentiation, and haemostasis/thrombosis.

Cat. No.	Description	Size (mg)	Qty/Cs
354008	Fibronectin, human	1	1
356008	Fibronectin, human	5	1
356009	Fibronectin, human, 25 mg (5 x 5 mg)	5	5

Corning Poly-D-Lysine

Cat. No.	Description	Size	Qty/Cs
354210	BioCoat Poly-D-Lysine	20 mg	1

Corning Fluorescent Dye

Cat. No.	Description	Size	Qty/Cs
354218	Corning DiIC12(3) fluorescent dye	100 mg	1
354216	Calcein AM Fluorescent Dye (10 x 50 µg)	50 µg	10
354217	Calcein AM Fluorescent Dye size	1 mg	1

Other Corning ECMs

Cat. No.	Description	Size	Qty/Cs
354250	Corning PuraMatrix™ peptide hydrogel	5 mL	1
354237	Extracellular matrix, human	1 mg	1
354240	Corning Cell-Tak™ cell and tissue adhesive	1 mg	1
354241	Corning Cell-Tak cell and tissue adhesive	5 mg	1
354242	Corning Cell-Tak cell and tissue adhesive	10 mg	1
354238	Vitronectin, human	0.25 mg	1
354256	Osteopontin, human	50 µg	1

Products for Cell Release and Recovery from ECMs

Cat. No.	Description	Size (mL)	Qty/Cs
354235	Dispase	100	1
354253	Cell recovery solution	100	1

Corning® Cell Culture Environments

Endothelial Cells and Environments

Cat. No.	Description	Qty/Pk	Qty/Cs
355053	Corning BioCoat™ endothelial cell growth environment	1	1
354141	Corning BioCoat angiogenesis system for endothelial cell invasion	1	1
354142	Corning BioCoat angiogenesis system for endothelial cell invasion	1	5
354151	HUVEC-2 (human umbilical vein endothelial cells), 5 x 10^5 cells per vial	1	1
355054	Endothelial cell culture medium, kit Includes: Corning endothelial cell culture medium (500 mL), epidermal growth factor (5 µg), endothelial cell growth supplement (100 mg), and trypsin inhibitor (50 mg).	1	1

Differentiation Environments

Cat. No.	Description	Qty/Pk	Qty/Cs
355058	Intestinal differentiation media pack Includes: seeding basal medium (500 mL), differentiation medium (500 mL), and MITO+ serum extender (2 x 0.5 mL).	1	1
355057	Intestinal epithelium differentiation environment, kit Includes: a specially formulated serum-free medium, culture supplements, sodium butyrate, and Corning BioCoat Fibrillar Collagen cell culture inserts.	1	1
355357	Enterocyte differentiation medium (2 x 250 mL)	1	2

ECM Mimetic and Advanced Surfaces

ECM Mimetic Surfaces and Substrates

Corning ECM mimetic surfaces and substrates contain biologically active, synthetic, animal-free peptides that have been rationally designed to mimic the cell attachment motifs of native ECM proteins. The peptides enable optimal cell binding and signaling in a broad range of serum-free, xeno-free, and animal-free media formulations, supporting the propagation and differentiation of a range of stem, progenitor, and primary cell types.

Corning PureCoat™ ECM Mimetic Cultureware

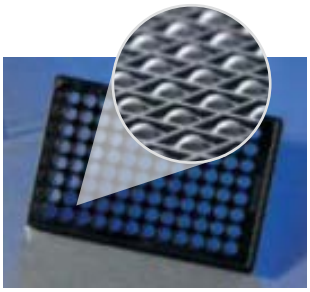
Corning PureCoat cultureware is coated with biologically active, synthetic, animal-free peptides that are covalently linked to a proprietary surface to provide a highly consistent, cost-effective alternative to self-coated extracellular peptides. The proprietary covalent linkage orients the peptides for optimal binding and signaling.

Flasks

Cat. No.	Description	Qty/Pk	Qty/Cs
356272	PureCoat ECM mimetic Collagen I peptide 75 cm^2 flask	5	10
356273	PureCoat ECM mimetic Collagen I peptide 175 cm^2 flask	5	10
356274	PureCoat ECM mimetic Collagen I peptide 525 cm^2 rectangular cell culture Multi-Flask, 3-layer, straight neck, vented cap	1	8
356275	PureCoat ECM mimetic Collagen I peptide 875 cm^2 rectangular cell culture Multi-Flask, 5-layer, straight neck, vented cap	1	6
356242	PureCoat ECM mimetic Fibronectin peptide 75 cm^2 flask	5	10
356243	PureCoat ECM mimetic Fibronectin peptide 175 cm^2 flask	5	10
356244	PureCoat ECM mimetic Fibronectin peptide 525 cm^2 rectangular cell culture Multi-Flask, 3-layer, straight neck, vented cap	1	8
356245	PureCoat ECM mimetic Fibronectin peptide 875 cm^2 rectangular cell culture Multi-Flask, 5-layer, straight neck, vented cap	1	6

Plates

356270	PureCoat ECM mimetic Collagen I peptide 6-well plate	5	10
356271	PureCoat ECM mimetic Collagen I peptide 24-well plate	5	10
356240	PureCoat ECM mimetic Fibronectin peptide 6-well plate	1	10
356241	PureCoat ECM mimetic Fibronectin peptide 24-well plate	1	10



Corning Ultra-Low Attachment Surface

Corning Ultra-Low Attachment surface is a hydrophilic, neutrally charged hydrogel coating that is covalently bound to the polystyrene surface of a vessel. The hydrogel inhibits specific and nonspecific immobilization, which forces cells into a suspended state that enables 3D spheroid formation. The coating is stable, noncytotoxic, biologically inert, and non-degradable. The Ultra-Low Attachment surface is available in plates, dishes, flasks, and Corning CellSTACK® vessels, as well as 96-well and 384-well microplates for high throughput spheroid screening applications.

For more information, see the **Cell Culture** section of this catalog.

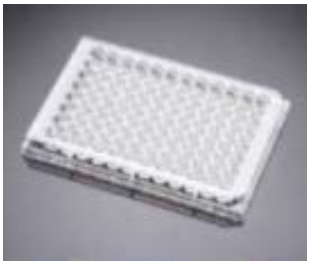
Corning Synthemax® Self-coating Substrate

Corning Synthemax self-coating substrate is a unique, animal-free, synthetic Vitronectin-based peptide containing the RGD motif and flanking sequences. The Synthemax substrate allows for scalable, multi-passage expansion of pluripotent stem cells in serum-free media, such as mTeSR®, subsequent to differentiation into a number of cell types, including retinal pigment epithelial cells and cardiomyocytes, as well as propagation of various progenitor cell types.

For more information, see the **Cell Culture** section of this catalog.

Corning® BioCoat™ Cultureware

Corning BioCoat products come in a variety of pre-coated options and are an ideal solution for enhanced cell attachment and growth of a variety of primary cells and transformed cells in serum-free or serum-containing cultures. Corning offers custom coating capabilities, in addition to the many product options listed below.



Corning BioCoat Collagen-coated Cultureware

Coverslips

Cat. No.	Description	Qty/Pk	Qty/Cs
354089	BioCoat Collagen I 22 mm round coverslip, No. 1 German glass	60	60

Dishes

354456	BioCoat Collagen I 35 mm culture dish, TC-treated	20	20
356456	BioCoat Collagen I 35 mm culture dish, TC-treated	20	100
354401	BioCoat Collagen I 60 mm culture dish, TC-treated	20	20
356401	BioCoat Collagen I 60 mm culture dish, TC-treated	20	100
354450	BioCoat Collagen I 100 mm culture dish, TC-treated	10	10
356450	BioCoat Collagen I 100 mm culture dish, TC-treated	10	40
354551	BioCoat Collagen I 150 mm culture dish, TC-treated	5	5
354459	BioCoat Collagen IV 35 mm culture dish, TC-treated	5	20
354416	BioCoat Collagen IV 60 mm clear culture dish, TC-treated	5	20
354453	BioCoat Collagen IV 100 mm culture dish, TC-treated	5	10

Flasks

354484	BioCoat Collagen I 25 cm^2 flask, TC-treated, vented cap	10	10
356484	BioCoat Collagen I 25 cm^2 flask, TC-treated, vented cap	10	50
354485	BioCoat Collagen I 75 cm^2 flask, TC-treated, vented cap	5	5
356485	BioCoat Collagen I 75 cm^2 flask, TC-treated, vented cap	5	50
354486	BioCoat Collagen I 150 cm^2 flask, TC-treated, vented cap	5	5
356486	BioCoat Collagen I 150 cm^2 flask, TC-treated, vented cap	5	40
354487	BioCoat Collagen I 175 cm^2 flask, TC-treated, vented cap	5	5
356487	BioCoat Collagen I 175 cm^2 flask, TC-treated, vented cap	5	40
354534	BioCoat Collagen IV 25 cm^2 flask, TC-treated, plug seal cap	10	10
354523	BioCoat Collagen IV 75 cm^2 flask, TC-treated, plug seal cap	5	10
354528	BioCoat Collagen IV 175 cm^2 flask, TC-treated, plug seal cap	5	5

Culture Slides

354557	BioCoat Collagen I 4-well culture slide	4	12
354630	BioCoat Collagen I 8-well culture slide	4	12

Microplates

354407	BioCoat Collagen I 96-well clear flat bottom microplate, TC-treated, with lid, nonsterile	5	5
356698	BioCoat Collagen I 96-well clear flat bottom microplate, TC-treated	20	80
354429	BioCoat Collagen IV 96-well clear flat bottom microplate, TC-treated, with lid, nonsterile	5	5

Corning® BioCoat™ Fibronectin-coated Cultureware

Coverslips

Cat. No.	Description	Qty/Pk	Qty/Cs
354088	BioCoat Fibronectin 22 mm round coverslip, No. 1 German glass	60	60

Dishes

354457	BioCoat Fibronectin 35 mm culture dish, TC-treated	5	20
354403	BioCoat Fibronectin 60 mm clear culture dish, TC-treated	5	20
354451	BioCoat Fibronectin 100 mm culture dish, TC-treated	5	10
354552	BioCoat Fibronectin 150 mm culture dish, TC-treated	5	5

Flasks

354532	BioCoat Fibronectin 25 cm^2 flask, TC-treated, plug seal cap	10	10
354521	BioCoat Fibronectin 75 cm^2 flask, TC-treated, plug seal cap	5	10
354646	BioCoat Fibronectin 150 cm^2 flask, TC-treated, plug seal cap	5	5
354526	BioCoat Fibronectin 175 cm^2 flask, TC-treated, plug seal cap	5	5

Culture Slides

354559	BioCoat Fibronectin 4-well culture slide	4	12
354631	BioCoat Fibronectin 8-well culture slide	4	12

Microplates

354409	BioCoat Fibronectin 96-well clear microplate, TC-treated	5	5
354670	BioCoat Laminin/Fibronectin 96-well clear microplate, TC-treated	5	5

Corning BioCoat Poly-D-Lysine Cultureware

Coverslips

Cat. No.	Description	Qty/Pk	Qty/Cs
354086	BioCoat Poly-D-Lysine 12 mm coverslip, No. 1 German glass	80	80
354077	BioCoat Poly-D-Lysine 35 mm dish with coverslip bottom, No. 1 German glass	20	20
354085	BioCoat Poly-L-Lysine 12 mm coverslip, No. 1 German glass	40	80

Dishes

354467	BioCoat Poly-D-Lysine 35 mm culture dish, TC-treated	5	20
356467	BioCoat Poly-D-Lysine 35 mm culture dish, TC-treated	20	100
354468	BioCoat Poly-D-Lysine 60 mm culture dish, TC-treated	5	20
356468	BioCoat Poly-D-Lysine 60 mm culture dish, TC-treated	20	100
354469	BioCoat Poly-D-Lysine 100 mm culture dish, TC-treated	10	10
356469	BioCoat Poly-D-Lysine 100 mm culture dish, TC-treated	10	40
354550	BioCoat Poly-D-Lysine 150 mm gridded culture dish	5	5
354518	BioCoat Poly-L-Lysine 35 mm culture dish, TC-treated	5	20
356518	BioCoat Poly-L-Lysine 35 mm culture dish, TC-treated	20	100
354517	BioCoat Poly-L-Lysine 60 mm culture dish, TC-treated	5	20
356517	BioCoat Poly-L-Lysine 60 mm clear culture dish, TC-treated	20	100

Flasks

354536	BioCoat Poly-D-Lysine 25 cm^2 flask, TC-treated, vented cap	5	10
356536	BioCoat Poly-D-Lysine 25 cm^2 flask, TC-treated, vented cap	10	50
354537	BioCoat Poly-D-Lysine 75 cm^2 flask, TC-treated, vented cap	5	5
356537	BioCoat Poly-D-Lysine 75 cm^2 flask, TC-treated, vented cap	5	50
354538	BioCoat Poly-D-Lysine 150 cm^2 flask, TC-treated, vented cap	5	5
356538	BioCoat Poly-D-Lysine 150 cm^2 flask, TC-treated, vented cap	5	40
354539	BioCoat Poly-D-Lysine 175 cm^2 flask, TC-treated, vented cap	5	5
356539	BioCoat Poly-D-Lysine 175 cm^2 flask, TC-treated, vented cap	5	40

Culture Slides

Cat. No.	Description	Qty/Pk	Qty/Cs
354577	BioCoat Poly-D-Lysine 4-well culture slide	4	12
354632	BioCoat Poly-D-Lysine 8-well culture slide	4	12
Microplates			
354461	BioCoat Poly-D-Lysine 96-well clear flat bottom microplate, TC-treated, with lid, nonsterile	5	5
356461	BioCoat Poly-D-Lysine 96-well clear flat bottom microplate, TC-treated, with lid, nonsterile	5	50
356690	BioCoat Poly-D-Lysine 96-well clear flat bottom microplate	20	80
354516	BioCoat Poly-L-Lysine 96-well clear flat bottom microplate, TC-treated, with lid, nonsterile	5	5
356516	BioCoat Poly-L-Lysine 96-well clear flat bottom microplate, TC-treated, with lid, nonsterile	5	50

Corning® BioCoat™ Poly-D-Lysine/Laminin Cultureware

Coverslip

Cat. No.	Description	Qty/Pk	Qty/Cs
354087	BioCoat Poly-D-Lysine/Laminin 12 mm coverslip, No. 1 German glass	80	80
Dish			
354455	BioCoat Poly-D-Lysine/Laminin 100 mm culture dish, TC-treated	5	10
Culture Slide			
354688	BioCoat Poly-D-Lysine/Laminin 8-well culture slide	4	12
Microplate			
354596	BioCoat Poly-D-Lysine/Laminin 96-well clear microplate, TC-treated	5	5

Corning BioCoat Laminin Cultureware

Dishes

Cat. No.	Description	Qty/Pk	Qty/Cs
354458	BioCoat Laminin 35 mm culture dish, TC-treated	5	20
354405	BioCoat Laminin 60 mm clear culture dish, TC-treated	5	20
354452	BioCoat Laminin 100 mm culture dish, TC-treated	5	10
354553	BioCoat Laminin 150 mm culture dish, TC-treated	5	5
Flasks			
354533	BioCoat Laminin 25 cm^2 flask, TC-treated, plug seal cap	10	10
354522	BioCoat Laminin 75 cm^2 flask, TC-treated, plug seal cap	5	10
Microplate			
354410	BioCoat Laminin 96-well clear microplate, TC-treated	5	5

Corning BioCoat Gelatin Cultureware

Dishes

Cat. No.	Description	Qty/Pk	Qty/Cs
354653	BioCoat Gelatin 100 mm culture dish	10	10
356653	BioCoat Gelatin 100 mm culture dish, TC-treated	10	40
Flasks			
354488	BioCoat Gelatin 75 cm^2 flask, TC-treated, vented cap	5	5
356488	BioCoat Gelatin 75 cm^2 flask, TC-treated, vented cap	5	50
Microplates			
354689	BioCoat Gelatin 96-well clear microplate, TC-treated	5	5
356689	BioCoat Gelatin 96-well clear microplate, TC-treated	5	50

Corning® BioCoat Matrigel® Matrix Cultureware

Dishes

Cat. No.	Description	Qty/Pk	Qty/Cs
354460	BioCoat Matrigel matrix 35 mm culture dish, LDEV-free	8	8
354602	BioCoat Matrigel matrix thin layer 35 mm culture dish, LDEV-free	20	20
354601	BioCoat Matrigel matrix thin layer 60 mm culture dish, LDEV-free, TC-treated	5	20
354600	BioCoat Matrigel matrix thin layer 100 mm culture dish, LDEV-free	10	10

Microplate

354607	BioCoat Matrigel matrix thin layer 96-well clear multiwell assay microplate	5	5

Corning BioCoat™ T-Cell Cultureware

Cat. No.	Description	Qty/Pk	Qty/Cs
354730	BioCoat T-Cell activation 96-well clear flat bottom control assay microplate, not treated	1	5
354725	BioCoat T-Cell activation anti-human CD3 96-well clear flat bottom assay microplate	1	5
354720	BioCoat T-Cell activation anti-mouse CD3 96-well clear flat bottom assay microplate	1	5

Corning BioCoat Poly-L-Ornithine/Laminin Cultureware

Cat. No.	Description	Qty/Pk	Qty/Cs
354657	BioCoat Poly-L-Ornithine/Laminin 96-well microplate, TC-treated	5	5

Corning BioCoat Multiple ECM Variety Packs

Culture Slides

Cat. No.	Description	Qty/Pk	Qty/Cs
354656	BioCoat 8-well culture slide variety pack Includes: 3 Culture Slides each of: Collagen I, Fibronectin, Poly-D-Lysine, and Falcon® uncoated control.	12	12

Multiwell Plates

354431	Variety Pack I - BioCoat 6-well clear flat bottom multiwell variety pack, TC-treated Contains five clear TC-treated polystyrene plates, with lids, one each of: Collagen I, Collagen IV, Fibronectin, Laminin, and Poly-D-Lysine	5	5
354417	Variety Pack II - BioCoat 6-well clear flat bottom multiwell variety pack, TC-treated Contains five clear TC-treated polystyrene plates, one each of: Collagen I, Fibronectin, Laminin, Poly-D-Lysine, and Falcon uncoated contrrol	5	5

Enhanced Tissue Culture-treated Surfaces

A novel family of treatments that alter the surface charge of culture vessels. Compared to cells grown on traditional tissue culture (TC)-treated surfaces, enhanced surfaces improve the attachment and growth of fastidious cell types, such as primary or transfected cell lines in low or serum-free environments.

Corning PureCoat Amine and Carboxyl Surfaces

Corning PureCoat amine (positively charged) and carboxyl (negatively charged) surfaces provide improved cell attachment, faster cell proliferation, and enhanced recovery post-thaw over standard TC surfaces. These surfaces function with a broad range of primary, transfected, transformed, and fastidious cell types, and have demonstrated utility in serum-reduced or serum-free conditions.

Dishes

Cat. No.	Description	Qty/Pk	Qty/Cs
354732	PureCoat amine 100 mm dish	10	10
356732	PureCoat amine 100 mm dish	10	40
354784	PureCoat carboxyl 10 mm dish	10	10
356784	PureCoat carboxyl 100 mm dish	10	40
Flasks			
354726	PureCoat amine 75 cm^2 flask	5	5
356726	PureCoat amine 75 cm^2 flask	5	50
354728	PureCoat amine 175 cm^2 flask	5	5
356728	PureCoat amine 175 cm^2 flask	5	40
354778	PureCoat carboxyl 75 cm^2 flask	5	5
356778	PureCoat carboxyl 75 cm^2 flask	5	50
354780	PureCoat carboxyl 175 cm^2 flask	5	5
356780	PureCoat carboxyl 175 cm^2 flask	5	40

Corning Primaria™ Surface

The Corning Primaria surface features a unique mixture of oxygen-containing (negatively charged) and nitrogen-containing (positively charged) functional groups on the polystyrene surface. The surface supports the growth of cells that can exhibit poor attachment or limited differentiation potential when cultured on traditional TC surfaces, including neuronal, primary, endothelial, and tumor cells. The surface consistency of each lot is confirmed by electron spectroscopy chemical analysis (ESCA).

Dishes

Cat. No.	Description	Qty/Pk	Qty/Cs
353801	Primaria 35 mm easy grip surface-modified cell culture dish	20	200
353802	Primaria 60 mm surface-modified cell culture dish	20	200
353803	Primaria 100 mm surface-modified cell culture dish	20	200
Flasks			
353813	Primaria 25 cm^2 surface-modified cell culture flask, 50 mL, canted neck, plug seal cap	20	200
353808	Primaria 25 cm^2 surface-modified cell culture flask, 50 mL, canted neck, vented cap	20	200
353824	Primaria 75 cm^2 surface-modified cell culture flask, 250 mL, straight neck, plug seal cap	5	100
353810	Primaria 75 cm^2 surface-modified cell culture flask, 250 mL, straight neck, vented cap	5	100
Plates			
353846	Primaria 6-well clear flat bottom surface-modified culture plate, with lid, sterile	1	50
353847	Primaria 24-well clear flat bottom surface-modified culture plate, with lid, sterile	1	50
353872	Primaria 96-well clear flat bottom microplate, with lid, sterile	1	50

Corning CellBIND® Surface

The Corning CellBIND® surface features a net negative surface charge due to oxygen-containing functional groups incorporated in the polystyrene surface. The surface is more hydrophilic, and thus more wettable, compared to standard TC surfaces, which facilitates cell attachment and spreading.

For more information, see the **Cell Culture** section in this catalog.

Corning® Cytokines, Growth Factors, and Other Media Supplements

The Corning portfolio of cytokines, growth factors, and media supplementation offers a wide array of proteins that result in proliferation or differentiation of the affected cells.

- Vialed, highly purified growth factors with high biological activity
- Broad range of highly purified natural and recombinant lymphokines
- Enriched culture supplements to be reconstituted/added in the medium of your choice
- Propagate your cells under more defined serum-reduced or serum-free conditions

Cytokines are a class of signaling molecules or intercellular mediators (proteins, peptides, and glycoproteins) that primarily affect cells of the immune system; however they can affect various cell types outside of the immune system. They differ from classical hormones in that they are produced by a number of tissue or cell types rather than by specialized glands. The effects of cytokines on cells can yield different outcomes. Some cytokines cause cell proliferation, while others may cause chemotaxis between cell types, and others can even cause cell death. Cytokines and growth factors are similar in their structure and mechanism of action. Both bind and initiate signaling pathways and many share several intracellular signaling components.

Growth factors are proteins that bind to receptors found on the surface of non-hematopoietic cells. Each family of growth factors affect specific cell types, e.g., nerve growth factors (NGF) affect nerve cell types, and epidermal growth factors (EGF) affect epithelial cell types.

These products enable researchers to optimize their media for serum-free growth of their cell lines. Selecting the appropriate growth factors and cytokines for your application is important – this is often based on existing protocols, experience, or experimentation. The mechanism of action of growth factors has been and continues to be heavily researched. Some cell lines depend on certain supplementation – whether that be a general growth supplement or a pinpointed growth factor – to differentiate or proliferate.

Corning® Cytokines

Corning offers a range of cytokines and glycoproteins that are derived from different species. These cytokines have been used to promote long-term proliferation in cell culture and to induce cell-mediated immune responses in a variety of cell types.

Cat. No.	Description	Size	Qty/Cs
354042	Interleukin-1b (IL-1b), human recombinant	2 µg	1
354043	Interleukin-2 (IL-2), human recombinant	10,000 BRMP units	1
356043	Interleukin-2 (IL-2), human recombinant	50,000 BRMP units	1
356078	Interleukin-2 (IL-2), mouse recombinant	10,000 BRMP units	1
354078	Interleukin-2 (IL-2), mouse recombinant	25,000 BRMP units	1
354058	Interleukin-3 (IL-3), mouse recombinant	10 µg	1
354040	IL-3 culture supplement, mouse	25 mL	1
354068	Interleukin-4 (IL-4), human recombinant	5 µg	1
354048	Granulocyte-macrophage colony stimulating factors (GM-CSF), human recombinant	1 µg	1
354105	Stem Cell Factor (SCF), human recombinant	10 µg	1
354066	Tumor Necrosis Factor-α (TNF-α), human recombinant	10 µg	1
356066	Tumor Necrosis Factor-α (TNF-α), human recombinant, 50 µg (10 µg/container)	10 µg	5

Corning Growth Factors

Corning offers a range of growth factors that are derived from different species, both natural and recombinant. These growth factors have been used to promote long-term proliferation in cell culture and to induce cell differentiation in a variety of cell types under serum-free or reduced serum conditions.

Cat. No.	Description	Size	Qty/Cs
354005	2.5S Nerve Growth Factor (NGF), mouse natural	10 µg	1
356004	2.5S Nerve Growth Factor (NGF), mouse natural	100 µg	1
356005	2.5S Nerve Growth Factor (NGF), mouse natural, 1 mg (500 µg/container)	500 µg	2
354009	7S Nerve Growth Factors (NGF), mouse natural	100 µg	1
354060	Basic Fibroblast Growth Factors (bFGF), human recombinant	10 µg	1
356060	Basic Fibroblast Growth Factors (bFGF), human recombinant, 50 µg (5 µg/container)	5 µg	10
356061	Basic Fibroblast Growth Factors (bFGF), human recombinant, 100 µg (10 µg/container)	10 µg	10
354052	Epidermal Growth Factor (EGF), human recombinant	100 µg	1
356052	Epidermal Growth Factor (EGF), human recombinant, 1 mg (100 µg/container)	100 µg	10
354001	Epidermal Growth Factor (EGF), mouse natural (culture grade)	100 µg	1
356001	Epidermal Growth Factor (EGF), mouse natural (culture grade), 1 mg (100 µg/container)	100 µg	10
354010	Epidermal Growth Factor (EGF), mouse natural (receptor grade)	100 µg	1
356010	Epidermal Growth Factor (EGF), mouse natural (receptor grade), 500 µg (100 µg/container)	100 µg	5
354037	Insulin-like Growth Factor (IGF-I), human recombinant (culture grade)	10 µg	1
354051	Platelet-derived Growth Factor-BB (PDGF-BB), human recombinant	10 µg	1
356051	Platelet-derived Growth Factor-BB (PDGF-BB), human recombinant, 100 µg (10 µg/container)	10 µg	10
354039	Transforming Growth Factor-b (TGF-b), human natural	1 µg	1
356039	Transforming Growth Factor-b (TGF-b), human natural, 5 µg (1 µg/container)	1 µg	5
356040	Transforming Growth Factor-b (TGF-b), human natural, 10 µg (2 µg/container)	2 µg	5
354107	Vascular Endothelial Growth Factor (VEGF), human recombinant	10 µg	1

Corning® Other Media Growth Supplements

Corning offers a broad range of other media growth supplements. Some products are specific to cell type, such as SMC4 (for iPSCs) and T-Cell culture supplement (for T-cells), while other products promote proliferation in a wide variety of cell types. Reducing serum use is made easy with products such as ITS and Corning Nu-Serum™.

Cat. No.	Description	Size	Qty/Cs
354331	Albumin (BSA, delipidized), bovine serum	10 g	1
354123	Bovine pituitary extract (BPE)	15 mg	1
356123	Bovine pituitary extract (BPE), 75 mg (15 mg/container)	15 mg	5
354006	Endothelial cell growth supplement (ECGS)	15 mg	1
356006	Endothelial cell growth supplement (ECGS)	100 mg	1
354203	Hydrocortisone	50 mg	1
354351	ITS premix universal culture supplement	5 mL	1
354350	ITS premix universal culture supplement	20 mL	1
354352	ITS+ premix universal culture supplement	20 mL	1
354227	Linoleic acid/albumin complex, 500 mg (2.5/500 mg)	500 mg	1
355006	MITO+ serum extender	5 mL	1
355100	Corning Nu-Serum growth medium supplement	100 mL	1
355500	Corning Nu-Serum growth medium supplement	500 mL	1
355104	Corning Nu-Serum IV growth medium supplement	100 mL	1
355504	Corning Nu-Serum IV growth medium supplement	500 mL	1
354201	Selenous acid (sodium salt)	100 mg	1
354357	Corning SMC4 media additive	290 mL	1
354115	T-cell culture supplement with ConA (IL-2 culture supplement), rat	100 mL	1
354116	T-cell culture supplement without ConA (IL-2 culture supplement), rat	100 mL	1
354204	Transferrin, human (Holo)	10 mg	1
354304	Transferrin, human (Holo)	1 g	1

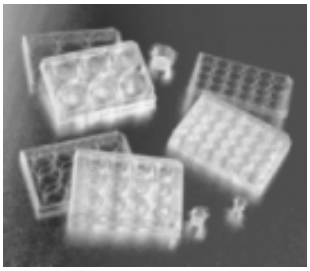
Permeable Support Inserts

Corning® FluoroBlok™ Inserts and HTS Insert Systems

Corning FluoroBlok cell culture inserts and HTS insert systems contain Corning FluoroBlok PET membrane which efficiently blocks the transmission of light within the range of 400 to 700 nm. The migration of fluorescently labeled cells or compounds across the membrane can be measured without interference from the non-migrated population and without additional manipulation. They are available in automation friendly, one-piece 24- and 96-well HTS formats and as convenient 24-well individual cell culture inserts.

Cat. No.	Description	Membrane Pore Size (µm)	Qty/ Pk	Qty/ Cs
Corning FluoroBlok Cell Culture Inserts for 24-well Plates				
351151	Inserts in 24-well plates, PET	3.0	1	48
351152	Inserts in 24-well plates, PET	8.0	1	48
353504	24-well cell culture insert companion plate	–	–	50
Corning FluoroBlok 24-well HTS Insert Systems, PET Membrane				
351155	Insert plate with 24-well plate and lid	3.0	1	1
351156	Insert plate with 24-well plate and lid	3.0	5	5
351157	Insert plate with 24-well plate and lid	8.0	1	1
351158	Insert plate with 24-well plate and lid	8.0	5	5
Corning FluoroBlok 96-well HTS Insert Systems, PET Membrane				
351161	Insert plate with 96 square well	3.0	1	1
351162	Insert plate with 96 square well	3.0	5	5
351163	Insert plate with 96 square well	8.0	1	1
351164	Insert plate with 96 square well	8.0	5	5
353928	96 square well, flat bottom plate	–	5	5

Coated Individual Inserts



BioCoat cell culture inserts

Corning BioCoat™ cell culture inserts are pre-coated with extracellular matrix proteins for applications requiring a protein-coated cell surface, such as cell adhesion, growth, invasion, migration and/or differentiation. Coatings include Corning Matrigel® matrix, Fibronectin, Collagen, and Laminin.

Cat. No.	Description	Membrane Pore Size (µm)	Qty/ Pk	Qty/ Cs
Corning BioCoat Collagen I Cell Culture Inserts, PET Membrane				
354442	Inserts in four 6-well plates	0.4	6	24
354580	Inserts in four 6-well plates	1.0	6	24
354540	Inserts in four 6-well plates	3.0	6	24
354444	Inserts in two 24-well plates	0.4	12	24
354482	Inserts in two 24-well plates	1.0	12	24
354541	Inserts in two 24-well plates	3.0	12	24
Corning BioCoat Collagen IV Cell Culture Inserts, PET Membrane				
354544	Inserts in four 6-well plates	3.0	6	24
354591	Inserts in two 24-well plates	1.0	12	24
354545	Inserts in two 24-well plates	3.0	12	24
Corning BioCoat Fibrillar Collagen Cell Culture Inserts, PET Membrane				
354472	Inserts in four 6-well plates	1.0	6	24
354474	Inserts in two 24-well plates	1.0	12	24
Corning BioCoat Fibronectin Cell Culture Inserts, PET Membrane				
354440	Inserts in four 6-well plates	0.4	6	24
354445	Inserts in two 24-well plates	0.4	12	24
354543	Inserts in two 24-well plates	3.0	12	24
Corning BioCoat FluoroBlok Fibronectin Cell Culture Inserts, Polyester (PET) Membrane				
354597	Individual inserts in two 24-well plates	3.0	12	24

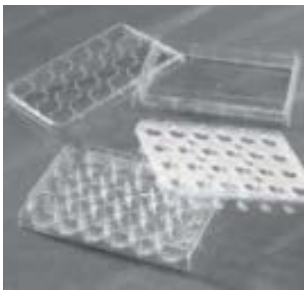
Visit **www.corning.com/lifesciences** for additional product and technical information.

Corning® BioCoat™ Cell Environments and Corning BioCoat Matrigel Invasion Chambers, PET Membrane

Cat. No.	Description	Membrane Pore Size (µm)	Qty/ Pk	Qty/ Cs
354481	Matrigel invasion chambers in four 6-well plates	8.0	6	24
354480	Matrigel invasion chambers in two 24-well plates	8.0	12	24
354483	Growth factor reduced Matrigel invasion chambers in two 24-well plates	8.0	12	24
Corning BioCoat Control Cell Culture Inserts, PET Membrane				
354570	Inserts in four 6-well plates	0.4	6	24
354567	Inserts in four 6-well plates	1.0	6	24
354573	Inserts in four 6-well plates	3.0	6	24
354576	Inserts in four 6-well plates	8.0	6	24
354572	Inserts in two 24-well plates	0.4	12	24
354569	Inserts in two 24-well plates	1.0	12	24
354575	Inserts in two 24-well plates	3.0	12	24
354578	Inserts in two 24-well plates	8.0	12	24

HTS Insert Plates

HTS insert plates are arrays of individual cell culture inserts connected by a rigid, robotics-friendly holder. This single-unit design makes insert plates ideal for running automated, high throughput drug transport (Caco-2 cells) cell toxicity studies or cell migration and invasion studies.



Corning BioCoat HTS Caco-2 Assay System

Contains specially formulated serum-free medium, culture supplements, sodium butyrate, and the Corning BioCoat Fibrillar Collagen 24-well insert system

354801	BioCoat HTS Caco-2 assay system, PET	1.0	1 plate/kit	1
354802	BioCoat HTS Caco-2 assay system, PET	1.0	5 plates/kit	5
Corning BioCoat Collagen I 24-Multiwell Insert Systems				
354598	With 24-well plate and lid, PET	3.0	–	24
Corning BioCoat Fibrillar Collagen I 24-Multiwell Insert System				
354803	With feeder tray and lid	1.0	1	1
354804	With feeder tray and lid	1.0	1	5
Corning BioCoat (Fibronectin) Angiogenesis System: Endothelial Cell Migration				
354143	24 Multiwell insert system, PET	3.0	1	1
354144	24 Multiwell insert system, PET	3.0	1	5
354147	96 Multiwell insert system, PET	3.0	1	1
354148	96 Multiwell insert system, PET	3.0	1	5
Corning BioCoat (Matrigel® matrix) Angiogenesis System: Endothelial Cell Invasion				
354141	24-Multiwell FluoroBlok™ insert system	3.0	1	1
354142	24-Multiwell FluoroBlok insert system	3.0	1	5
Corning BioCoat (Matrigel matrix) Tumor Invasion Systems				
354165	24-Multiwell insert system	8.0	1	1
354166	24-Multiwell insert system	8.0	5	5
354167	96-Multiwell insert system	8.0	1	1
354168	96-Multiwell insert system	8.0	5	5
Corning Gentest™ Pre-coated PAMPA Plate System				
353015	96-well polyvinylidene difluoride (PVDF) insert system pre-coated with structured layers of phospholipids	0.4	5	5

For Transwell® permeable supports, see the **Cell Culture** section of this catalog. For Falcon® uncoated individual inserts, see the **Falcon Product Selection Guide** (CLS-F-PSG-001) or the **Permeable Supports Selection Guide** (CLS-CC-027).

Genomics

Overview

Meeting the needs of the Genomics laboratory

Corning's dedication to quality and technology has produced this comprehensive line of products for the genomics laboratory. Whatever aspect of research you are involved in – our products deliver reliable results. All of Corning's products are manufactured under stringent quality guidelines as an assurance of consistent performance from device to device and lot to lot. Featured in this guide are products for the high throughput genomics laboratory:

- Thermowell® Gold PCR reaction vessels for conventional and real-time PCR, and sequencing
- 96-well half-area UV microplates for nucleic acid quantitation

The Equipment Compatibility Program

Corning Life Sciences maintains a comprehensive equipment compatibility program in which leading equipment manufacturers certify the compatibility of our products with their instruments.

Corning microplates offer compatibility with a wide range of laboratory instrumentation, including microplate readers, microplate washers, liquid handling instruments, automation accessories, and robotic systems. To make it easy to identify the Corning microplates that perform well with your instruments, we have assembled an Equipment Compatibility Guide with the help of manufacturers from throughout the industry. The Guide is available at **www.corning.com/lifesciences**. To ensure the accuracy of this reference guide, we invited leading manufacturers to test our microplates on their instruments using extensive criteria for fit and function. For example, a microplate reader manufacturer would have tested a Corning microplate for proper fit in the microplate carrier, suitable optical performance, and compatibility with all of the instrument's accessories, including microplate stackers and bar code readers. If the microplate met all criteria, the manufacturer then signed a form certifying that the microplate was tested for fit and function and found compatible with their instrument and all relevant accessories. So you have their assurance, as well as ours, that the Corning microplates you choose will perform as intended. Please use this Equipment Compatibility Guide with confidence.

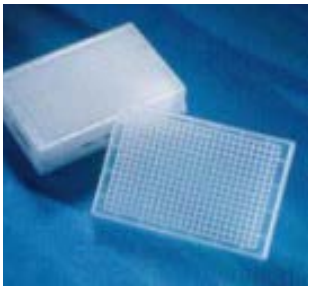
Life Sciences Early Access to Development – the L.E.A.D. Program

Corning is committed to meeting the rapidly evolving needs of the life sciences laboratory. We are continually developing innovative new products that are compatible with the latest advances in technology and instrumentation. Our L.E.A.D. program gives researchers access to these products and special pricing prior to their full market release. Contact your local Corning Life Sciences office or Corning Account Manager for more information about the products currently available through this program.

Expert assistance is just a telephone call or e-mail away

Customer service and scientific support representatives are available to answer any question – from pricing and product availability to protocols and applications advice. Our offices around the world are able to respond promptly to your inquiry regardless of your location. Contact us at your local office.

Colony Picking, Bacterial Growth, and Storage

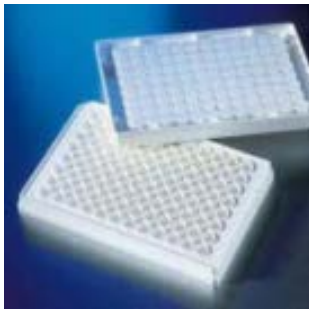


96-well and 384-well Polypropylene Blocks for Growth and Storage

96-well and 384-well deep well blocks feature well designs for optimal liquid handling and are RNase-/DNase-free.

Cat. No.	Description	Well Shape	Sterile	Well Volume	Qty/Pk	Qty/Cs
3956	96-well	Round V	Yes	0.5 mL	10	50
3957	96-well	Round V	No	0.5 mL	10	100
3958	96-well	Round	Yes	1 mL	5	25
3959	96-well	Round	No	1 mL	5	100
3960	96-well	V-Bottom	Yes	2 mL	5	25
3961	96-well	V-Bottom	No	2 mL	5	100
3964	384-well	Square-round	Yes	180 µL	5	25
3965	384-well	Square-round	No	180 µL	5	100
3342	384-well	Square V	Yes	240 µL	5	50
3347	384-well	Square V	No	240 µL	5	50

Purification



Corning® Filtr*EX*™ 96-well Filter Microplates

Corning Filtr*EX* filter microplates meet standard ANSI/SBS footprint dimensions for microplates. The rigid side walls make the microplate ideal for automation and the wide skirt accepts bar codes. Individual filter disks are encapsulated in the microplate by a unique process that ensures 100% integrity of each well. The design of the nozzle prevents sample cross-contamination and wicking. Glass fiber filter microplates can be used for a variety of applications, such as plasmid isolation, DNA purification, PCR clean-up, or receptor/ligand binding assays. They are a cost-saving alternative to DNA prep kits. Use the low-binding hydrophilic PVDF membrane for lysate clarification, protein kinase assays, or bead- or resin-based separation assays. For additional application information, visit our Technical Resources section at **www.corning.com/lifesciences**.

Cat. No.	Description	Sterile	Well Volume (µL)	Qty/Pk	Qty/Cs
3504	0.2 µm PVDF membrane, hydrophilic	No	350	10	50
3505	0.2 µm PVDF membrane, hydrophilic	Yes	350	10	50
3510	0.25 mm glass fiber filter	No	350	10	50
3511	0.66 mm glass fiber filter	No	350	10	50
3514	Fluid guard for Filtr*EX* 96-well filter microplates	No	–	100	100

Please contact us for customized membranes.

Volume Adapter and Applicator

A volume adapter allows larger volumes (up to 1 mL) to be applied to the 96-well filter microplates. The applicator easily assembles and disassembles the filter microplate and adapter, and it ensures a perfect, leak-free fit.

Cat. No.	Description	Qty/Pk	Qty/Cs
3584	Volume adapter, nonsterile	10	50
3507	Applicator	1	1

Collection Microplates

Corning® Filtr*EX*™ 96-well filter microplates meet standard ANSI/SBS footprint dimensions for microplates and can be used with a broad range of collection microplates. Polystyrene and polypropylene microplates are available with a variety of well geometries. Commonly used collection microplates are listed below. For information about other compatible collection microplates, please contact us.

Cat. No.	Description	Well Volume (µL)	Qty/Pk	Qty/Cs
3365	96-well clear, round bottom polypropylene microplate	360	25	100
3795	96-well round bottom polystyrene microplate	360	25	100
3897	96-well V-bottom polystyrene microplate	320	25	100

Spin-X® Centrifuge Tube Filters

Spin-X centrifuge tube filters consist of a membrane-containing filter unit within a centrifuge tube. They filter by centrifugation for bacteria removal, particle removal, HPLC sample preparation, removal of cells from media, and DNA removal from agarose or acrylamide gels. Maximum relative centrifugal force (RCF) is 16,000 x g.

Cat. No.	Membrane	Well Volume (Working µL)	Pore Size (µm)	Tube Size (mL)	Qty/Cs
8160	CA	500	0.22	2.0	96
8161*	CA	500	0.22	2.0	100
8162	CA	500	0.45	2.0	96
8163*	CA	500	0.45	2.0	100
8169*	NY	500	0.22	2.0	200
8170*	NY	500	0.45	2.0	200

CA = Cellulose Acetate, NY = Nylon
*Product is nonsterile.

Spin-X Tube Purification of DNA from Agarose Gels

Introduction

Purification of DNA from an agarose gel with the Spin-X tube is quick and efficient, unlike the electroelution, dialysis, and "freeze-squeeze" methods. The Spin-X method consists of two simple steps: excision of the band from the gel and centrifugation in the Spin-X tube. Yields range from 30% to 80%.

Protocol*

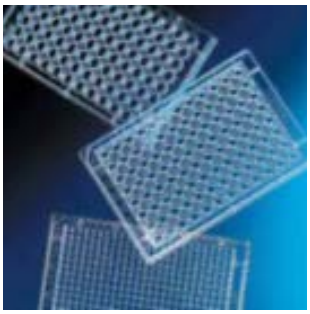
1. Electrophorese DNA in an agarose gel containing ethidium bromide.
2. After electrophoresis, illuminate the gel under long wavelength UV light. Then, using a sharp instrument, carefully excise the band of interest (30 to 15,000 bp).
3. Place the gel slice into the filter cup of the Spin-X tube (Cat. Nos. 8160, 8161, 8162, and 8163) and mix with 100 µL to 200 µL of distilled water or Tris-EDTA.
4. Spin the tube at about 13,000 x g for 5 to 20 minutes at room temperature.
5. Collect the DNA from the microcentrifuge tube; the agarose gel will be retained on the Spin-X membrane. If needed, ethanol precipitate the DNA to remove any EDTA present.

Note: DNA yield may increase with the incorporation of one or all of the following steps:

1. Macerate the gel slice prior to placement in the Spin-X tube.
2. Prior to centrifugation in step 4, freeze the gel slice at -70°C in a separate tube, then allow to thaw.
3. After the initial centrifugation, add an additional 200 µL of buffer to the Spin-X tube and centrifuge again.
4. Spin for a longer period of time.

*Schwarz, Herbert and Whitton, J. Lindsay, 1992. A Rapid, Inexpensive Method for Eluting DNA from Agarose or Acrylamide Gel Slices Without Using Toxic or Chaotropic Materials. Vol. 13, No. 2, BioTechniques.

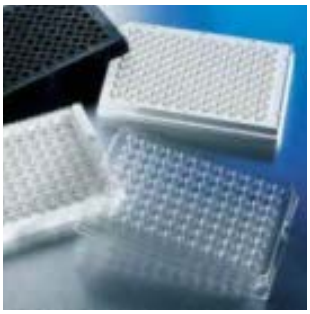
Quantitation and Detection



Corning® 96-well UV Microplates

These microplates have a unique UV-transparent bottom, which is ideal for determining protein and/or nucleic acid concentrations. The UV-transparent bottom is molded to the top without adhesives for greater strength and maximum leak resistance. These microplates are certified for low background and consistent performance at 260 nm and 280 nm. Their broad linear detection range allows reliable detection of high and low concentrations of biomolecules.

Cat. No.	Format	Bottom	Sterile	Well Volume (µL)	Qty/Pk	Qty/Cs
3635	96-well	Flat	No	370	25	50
3679	96-well half-area	Flat	No	205	25	50

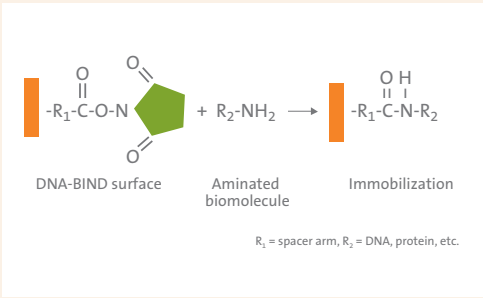


Corning DNA-BIND® Assay Microplates

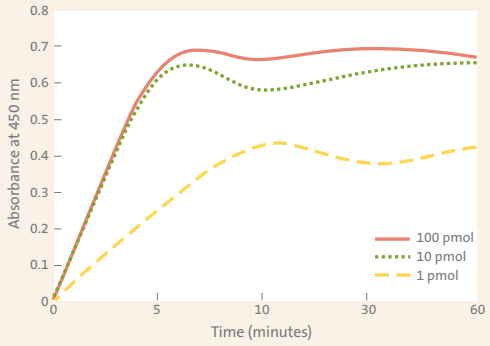
Corning DNA-BIND surface covalently couples to amine groups, providing a convenient method to immobilize aminated single-stranded DNA by either the 5' or 3' end for hybridization, amplification, or other DNA-based assays. 96-well microplates and 1 x 8 Corning Stripwell™ microplates come without lids. Protocols and application information are available at **www.corning.com/lifesciences**.

Cat. No.	Format	Well Shape	Qty/Pk	Qty/Cs
2505	96-well microplate, clear	Flat	1	50
2506	1 x 8 Stripwell microplate, clear	Flat	1	50
2498	96-well microplate, black	Flat	1	50
2525	96-well microplate, clear	Flat	1	10

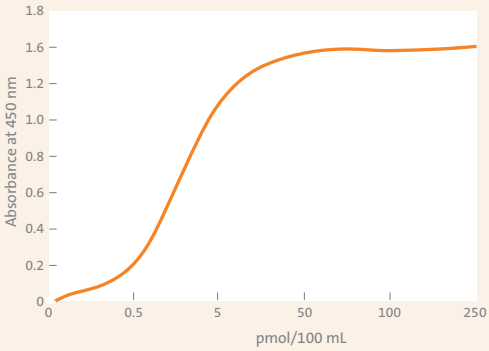
DNA-BIND Surface Performance



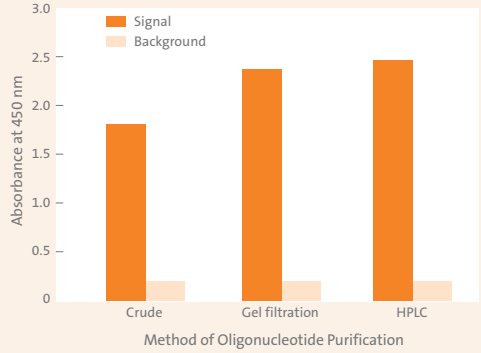
Reaction of N-oxysuccinimide with an aminated biomolecule



Kinetics of oligonucleotide coupling



Detection of hybridization at increasing oligonucleotide concentrations



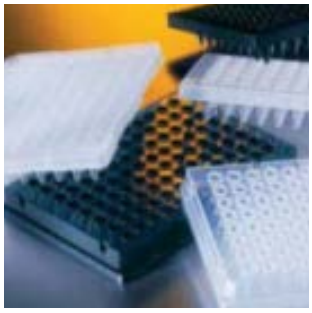
Effect of post-synthetic purification method on signal strength and background

DNA Amplification

Corning® Thermowell® GOLD PCR Reaction Microplates and Tubes

Corning Thermowell GOLD PCR reaction microplates and tubes exemplify Corning's commitment to innovation: to develop superior quality, reliable, and versatile products to complement today's dynamic changes in technology. The wide variety of options offered by Thermowell GOLD provides researchers the choices necessary for complete compatibility with laboratory equipment. Look to Thermowell GOLD for regular PCR, sequencing, and real-time PCR.

Corning Thermowell GOLD and Thermowell 96-well Polypropylene PCR Microplates and Accessories

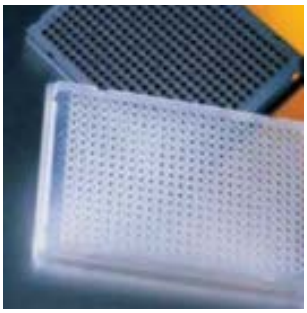


Corning Thermowell GOLD 96-well PCR microplates are offered in four formats to ensure maximum flexibility and a perfect match for your applications. The original Thermowell 96-well PCR microplates are universal fit and can be cut into 3 x 8 well segments.

Cat. No.	Description	Qty/Pk	Qty/Cs
6551	96-well microplate, clear, Thermowell	25	25
3752	96-well microplate, full skirt, clear, Thermowell GOLD	10	50
3753	96-well microplate, half skirt, clear, Thermowell GOLD	10	50
3754[a]	96-well microplate, elevated skirt, clear, Thermowell GOLD	10	50

[a]Fully compatible with ABI 3700 and 3730.

Corning Thermowell Gold 384-well Polypropylene PCR Microplates and Accessories

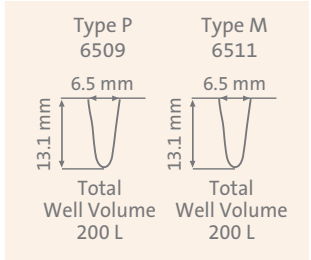


Corning Thermowell GOLD 384-well PCR microplates feature exceptional dimensional stability following thermocycling, and are fully compatible with automation, commonly used thermal cyclers, and Applied Biosystems® sequencing adapters (see compatibility table).

Cat. No.	Description	Qty/Pk	Qty/Cs
3757	384-well polypropylene PCR microplate, clear	10	50
3756	384-well polypropylene PCR microplate, black	10	50
6569	Aluminum sealing tape for 384-well microplates	100	100
6575	Universal optical sealing tape	100	100

Corning Thermowell Polycarbonate PCR Microplates

Cat. No.	Format	Model Name	Well Volume (µL)	Qty/Pk	Qty/Cs
6509	96-well	Model P	200	1	25
6511	96-well	Model M	200	1	25



Microplate well dimensions

Thermal Cycler Compatibility Guide for Polycarbonate PCR Microplates

Cat. No.	Name	Compatible Thermal Cyclers
6509	Model P	Applied Biosystems GeneAmp® PCR System 9600[b], Barnstead Thermolyne Amplitron II®, Techne® Cyclogene, and Gene E with 96 x 0.2 mL block
6511	Model M	MJ Research PTC-100-96V, PTC-200 DNA Engine™, Biometra Uno - Thermoblocker™, Coy Corporation Temp Cycler II, Corbett Research FTS-960, Hybaid OmniGene with Microblock, Quatro BioSystems T-C-40

[b]Requires the use of the spacer block and frame (Cat. No. 6527).

PCR Sealing Tapes and Sealing Mats

Sealing tapes prevent evaporation and enable oil-free operation when used with thermal cyclers with heated lids. The universal optical sealing tape can be used in detection coupled with PCR systems (real-time PCR).

Cat. No.	Description	Qty/Pk	Qty/Cs
6569	Aluminum sealing tape for 384-well microplates	100	100
6570	Aluminum sealing tape for 96-well microplates	100	100
6575	Universal optical sealing tape for real-time PCR	100	100
6555	Corning® Thermowell® sealing mat for 96-well microplates	1	25
3087	Silicone rubber septa mat	10	50
6520	Polycarbonate lid (fits Cat. No. 6511 with oil overlays)	1	25

Corning Thermowell GOLD and Thermowell PCR Tubes

Individual PCR tubes are made of thin wall polypropylene and designed for precise fit in heat blocks to optimize heat transfer. Tubes are RNase-/DNase-free, are autoclavable at 121°C, and withstand centrifugation to 10,000 x g.

Cat. No.	Description	Qty/Pk	Qty/Cs
3745	0.2 mL PCR tubes, flat, clear, Thermowell GOLD	500	1,000
6571	0.2 mL PCR tubes, flat, clear, Thermowell	96	960
3744	0.2 mL PCR tubes, flat, assorted, Thermowell GOLD	500	1,000
3747	0.2 mL PCR tubes, dome, clear, Thermowell GOLD	500	1,000
6531	0.2 mL PCR tubes, dome, clear, Thermowell	96	960
3746	0.2 mL PCR tubes, dome, assorted, Thermowell GOLD	500	1,000
3750	0.5 mL PCR tubes, flat, clear, Thermowell GOLD	500	1,000
6530	0.5 mL PCR tubes, flat, clear, Thermowell	250	1,000
3749	0.5 mL PCR tubes, flat, assorted, Thermowell GOLD	500	1,000

Corning Thermowell GOLD and Thermowell 8-well PCR Tube Strips

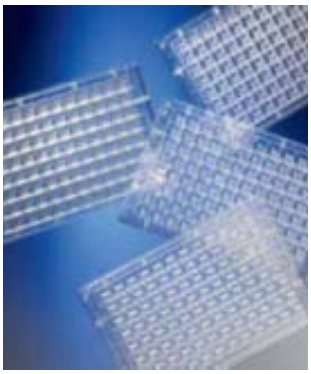
Tube strips consist of eight 0.2 mL thin wall polypropylene tubes connected together. Dual connectors between adjacent tubes eliminate inadvertent breakage during sample handling. Tube strips are designed for precise fit in thermal cyclers to optimize heat transfer. Thermowell GOLD cap strips are sold separately from Thermowell GOLD tube strips. Original Thermowell tube strips and cap strips are packaged together. Tube strips are RNase-/DNase-free, and are autoclavable at 121°C.

Cat. No.	Description	Qty/Pk	Qty/Cs
3741	0.2 mL 1 x 8 tube strips, clear, Thermowell GOLD	125	1,250
3740	0.2 mL 1 x 8 tube strips, assorted colors, Thermowell GOLD	125	1,250
6542	0.2 mL 1 x 8 tube strips, clear, Thermowell	60	300
6547*	0.2 mL 1 x 8 tube strips, assorted, Thermowell	60*	300
3743	1 x 8 Cap strips, domed, clear, Thermowell GOLD	125	1,250
3748	1 x 8 Cap Strips, domed, assorted colors, Thermowell GOLD	125	1,250
3742**	1 x 8 optically clear flat cap strips, for real-time PCR, Thermowell GOLD	125	1,250

*60 of each color per bag; 1 bag of each color per case.
**Designed for real-time PCR. Suitable for use with Thermowell GOLD 0.2 mL 1 x 8 PCR tube strips and 96-well microplates.

For Compatibility Guide and Volume Reference table, see page F10.

Protein Crystallization Microplates



Alphanumeric markers in each well cluster for easy identification under the microscope.

Next Generation Crystal*EX*™ Microplates for 96-well High Throughput Sitting Drop Protein Crystallization

- Corning® 96-well and 384-well crystallization microplates are optimized for high throughput protein crystal growth and screening
- Designed for sitting drop applications
- Meets ANSI/SBS standard footprint dimensions for microplates
- Ideal for fully automated crystal screening
- Multiple formats and versatility for custom options to maximize crystal formation, identification and analysis, and harvesting
  - Choose from four unique protein well shapes
  - Options include one or three protein wells per reservoir well
- Cyclic olefin copolymer (COC) offers strong chemical compatibility and good optical clarity
- Reservoir numbers are embossed on each individual well for easy identification

Next Generation Crystal*EX* Microplate Designs

One reservoir well is flanked by either one or three protein wells, with ANSI/SBS-standard spacing between the centers of adjacent well clusters.

1 protein well
1 reservoir

3 protein wells
1 reservoir

Four different protein well shapes are available:

Round bottom

Conical flat bottom

Flat bottom

1 µL conical flat bottom, crystal cup*

*The crystal cup facilitates collection and centering of the protein crystals after incubation.

Cat. No.	Protein Well Size	Protein Well Shape	No. of Protein Wells	Surface Treatment	Qty/Pk	Qty/Cs
3556	4 µL	Round	1	Not treated	10	50
3551	4 µL	Conical flat	1	TC-treated**	10	50
3552	2 µL	Round	3	Not treated	10	50
3553	2 µL	Conical flat	3	Not treated	10	50
3550	1 µL	Conical flat, crystal cup	3	Not treated	10	50

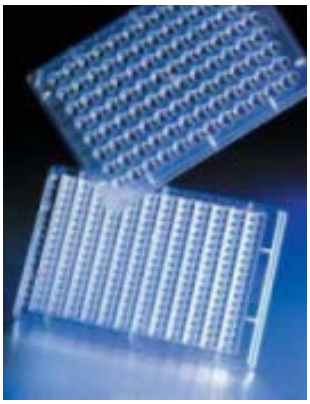
**Surface processed for hydrophilicity.

Universal Optical Sealing Tape for Next Generation Crystal*EX*™ and Crystal*EX* Microplates

- High optical quality, pressure-sensitive tape ensures tight sealing to minimize evaporation.
- Ideal for microscopic observation of crystals
- Suitable for use between -70°C and 100°C
- Compatible with commonly used aqueous solutions and organic solvents

Cat. No.	Description	Qty/Pk	Qty/Cs
6575	Universal optical sealing tape	100	100

Crystal*EX* Crystallization Microplates



96-well Microplates

- Features 96 large reservoir (reagent) wells and 96 corresponding protein wells
- Conical bottom protein wells allow improved centering of the protein drop.
- Compatible with manual pipettors and automation
- Novel merged well design provides efficient vapor space for protein crystallization.
- Reservoir and protein wells are positioned to be compatible with multi-head dispensing equipment.

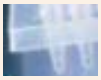
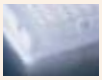
384-well Microplate

- Meets ANSI/SBS standard footprint dimensions for microplates
- Ideal for fully automated crystal screening
- Features 192 reservoir wells and 192 corresponding protein wells
- Flat bottom protein wells are optimized for imaging of crystals.
- Reservoir and protein wells are positioned to be compatible with multi-head dispensing equipment.

Cat. No.	Format	Well Bottom	Reservoir Well Volume (µL)	Protein Well Volume (µL)	Sterile	Qty/ Pk	Qty/ Cs
3773	96-well	Conical	210	10	No	10	50
3785*	96-well, TC-treated	Conical, flat	210	7	No	10	50
3775	384-well	Flat	100	3.4	No	10	50

*Surface processed for hydrophilicity.

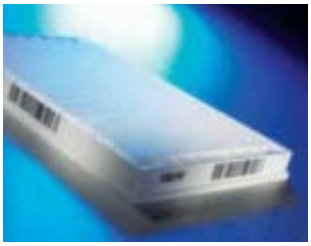
Compatibility Guide for Thermal Cyclers, Sequencers, and Real-time PCR

		Corning® Thermowell® GOLD Microplates		
		 96-well Half Skirt	 96-well Full Skirt	 384-well
Regular Thermal Cyclers				
Applied Biosystems/ Life Technologies	Veriti®	■		■
	9600	■		
	9700	■		
	2720	■		
Bio-Rad/MJ Research	MyCycler™	■	■	
	T100	■	■	■
	C1000 Touch	■	■	■
	DNA Engine Tetrad® 2	■	■	■
	PTC-100	■	■	■
	PTC-200	■	■	■
	PTC-225 Tetrad	■	■	■
	DNA Engine Dyad™	■	■	■
	Dyad Disciple	■	■	■
Eppendorf	MasterCycler® ep	■	■	
	MasterCycler M384			■
	MasterCycler pro S	■	■	
	MasterCycler pro 384			■
	MasterCycler nexus gradient	■	■	
	MasterCycler nexus	■	■	
	MasterCycler nexus eco	■	■	
	MasterCycler gradient eco	■	■	
	MasterCycler nexus GXS1	■	■	
	MasterCycler nexus SX1	■	■	
	MasterCycler nexus GSX1e	■	■	
	MasterCycler nexus SX1e	■	■	
Real-time PCR Thermal Cyclers				
Applied Biosystems/ Life Technologies	7300	■		
	7000	■		
	7500	■		
	7700	■		
	7900HT	■		■
	ProFlex™	■		
Bio-Rad/MJ Research	iCycler®	■	■	
	MyiQ™	■	■	
	iQ™5	■	■	
	Chromo 4	■	■	
	DNA Engine Opticon® 2	■	■	
	CFX 96 Touch™	■	■	
	CFX Connect™	■	■	
	CFX384 Touch™			■
	MiniOpticon™	■	■	
Eppendorf	MasterCycler ep realplex	■	■	
Stratagene/ Agilent Technologies	Mx 4000	■		
	Mx 3000P	■		
	Mx 3005P	■		

Corning® Thermowell GOLD PCR Microplates Volume Reference Table

Format	Total Volume	Working Volume
384-well PCR microplates	55 µL	50 µL
96-well PCR microplates, full skirt	240 µL	200 µL
96-well PCR microplates, half skirt	340 µL	300 µL
96-well PCR microplates, elevated skirt	340 µL	300 µL

Bar Code Customization



Dependable Durability

Bar codes have been quality tested for optimal readability, chemical resistance, and temperature variation.

What is a Bar Code?*

The same kind of bar codes you see in stores and supermarkets can be very useful to your lab. Consisting of a series of black bars and light spaces representing letters and/or numerals, a bar code is an easy-to-use vehicle for data collection. The specific arrangement of these bars and spaces follows strict rules known as a "symbology."

How Does a Bar Code Work?

Bar codes reflect spots of light into a scanner in varying amounts. These differences in reflection are translated into electrical signals by a light detector inside the scanner. The signals are converted into binary ones and zeros, which are used in various combinations to stand for specific numbers and letters.

Common Characteristics of a Bar Code

The Quiet Zones

The areas immediately adjacent to the beginning and the end of the bar code symbol. These zones define the parameters of the code. As a rule of thumb, zones should be 0.25" or larger to prevent misreads.

Start and Stop Characters

Found at the beginning and end of the bar code symbol. They tell the scanner from which direction information is being received.

Interpretation Line

Appears above or beneath a bar code where human readable information appears.

Corning, Beyond the Common Bar Code

- 2.75" x 0.25" label size
- Linear (1-D) bar codes: Code 128, Code 3 of 9, Interleaved 2 of 5
- 10 mil narrow bar element (X-dimension = 0.010")
- Multiple bar code labels on a single microplate
- Label placement on any side of a Corning microplate
- Customer sequence is electronically stored and can be maintained even if microplates or projects change.

Custom Bar Codes

Corning will assist in designing and implementing a bar code label to meet your exact specifications. We will provide bar code label test samples at the front end of a project to confirm decodability and ensure flawless performance in your end-use process. Our other customization features include:

- Flexible bar code and corresponding human readable layout/orientation on the bar code label, for compatibility with the internal bar code scanner inside your automated instruments
- Color coding
- Superior print quality and resolution
- Flexible bar code label positioning
- Resistant to most commonly used organic solvents

Expert Advice

Most Corning genomics products are suitable for bar code customization. Contact Corning Life Sciences or your local Account Manager for more information.

*Information provided by Computype, Inc.

Liquid Handling

Overview

Designed For Performance

Corning Life Sciences offers a full line of liquid handling products that are manufactured under strict process controls guaranteeing consistent product performance. All Corning Life Sciences plastics manufacturing facilities are ISO 9001 registered.

In addition, customers can now request a Certificate of Quality for any Corning® or Costar® liquid handling product. Certificates are available at www.corning.com/lifesciences. This certificate details lot-specific information on component materials, sterility testing, and pyrogen testing. Also available are detailed product descriptions and drawings that highlight product dimensions and testing procedures. All are available simply by calling your local Corning Life Sciences office.

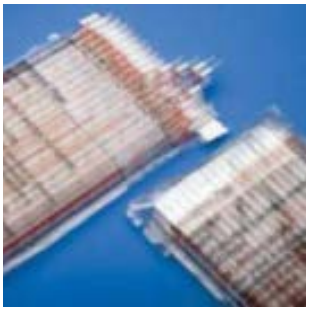
Nonpyrogenic Certification

Most Corning and Costar liquid handling products are certified nonpyrogenic with a documented endotoxin level of equal to or less than 0.1 EU/mL. Endotoxins have been shown to cause variability in cell culture. Nonpyrogenic certification is another way Corning helps ensure consistent cell culture results. Corning also offers a detailed technical bulletin on the effects of endotoxins in cell culture. This may be obtained by calling your local Corning Life Sciences office or by downloading the bulletin from the Corning website **www.corning.com/lifesciences**.

Pipets

Paper/plastic wrap

Clear plastic wrap



Bulk pack

Stripette® Serological Pipets

- Manufactured and packaged with animal-free materials
- Sterile
- RNase-/DNase-free
- Nonpyrogenic
- Noncytotoxic
- Exclusive anti-drip tip assures accurate delivery.
- Color-coded magnifier stripes make volume reading and size selection easier.
- Bidirectional graduations provide choice of ascending and descending scales.
- Negative graduations allow additional working volume.
- Three packaging options:
  - Individually wrapped, paper/plastic
  - Individually wrapped, clear plastic
  - Bulk packed
- Volumetric accuracy of ±2% at stated capacity

Individually Wrapped, Paper/Plastic Wrap

Cat. No.	Capacity (mL)	Graduations (mL)	Negative Grads. (mL)	Color-coded Stripe	Qty/Pk	Qty/Cs
4485	1	1/100	0.2	Yellow	50	1,000
4486	2	1/100	0.2	Green	50	1,000
4487	5	1/10	2.5	Blue	50	200
4488	10	1/10	3.0	Orange	50	200
4489	25	2/10	10.0	Red	25	200
4490	50	1/2	10.0	Purple	25	100
4491	100	1	n/a	Aqua	10	100

Individually Wrapped, Clear Plastic Wrap

4011	1	1/100	0.2	Yellow	100	1,000
4012	1	1/100	0.2	Yellow	100	200
4021	2	1/100	0.2	Green	100	1,000
4051	5	1/10	2.5	Blue	50	200
4101	10	1/10	3.0	Orange	50	200
4492*	10	1/10	3.0	Orange	50	200
4251	25	2/10	10.0	Red	50	200
4501	50	1/2	10.0	Purple	25	100
4484	100	1	n/a	Aqua	10	100

Bulk Packed in Bags

4010	1	1/100	0.2	Yellow	50	1,000
4020	2	1/100	0.2	Green	50	1,000
4050	5	1/10	2.5	Blue	50	500
4100	10	1/10	3.0	Orange	50	500
4250	25	2/10	10.0	Red	25	200
4500	50	1/2	10.0	Purple	25	100

*Cat. No. 4492 features a wide tip for handling viscous fluids.

For Falcon® serological pipets, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).


Clean room packaging

Clean Room Packaging for Stripette® Serological Pipets

Corning's clean room packaged pipets are a safety and convenience revolution. This extraordinary packaging is ideal for cell-based vaccine and drug production facilities, or other laboratory clean rooms.

- Triple-bagged
- Each pipet is individually wrapped in easy open paper/plastic
- No need for decontamination spraying with alcohol
- Sterility Assurance Level (SAL) of 10^{-6}

Note: Clean room packaged Stripettes have the same features as the standard Stripettes except for the sterility and packaging.

Contained in a twist-tied liner (Bag 1), the entire case contents of triple-bagged pipets can easily be removed from the corrugated box for clean area storage.

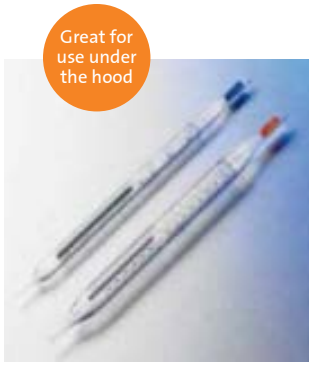
At the first stage clean room, the liner (Bag 1) is opened and the double-bagged inner packs with their outer sterile barriers (Bag 2) are removed.

At the second stage clean room the outer sterile barrier (Bag 2) is opened and the inner sterile barrier (Bag 3) is removed.

Reaching the point of use, the inner sterile barrier (Bag 3) is opened and the individually wrapped pipets are removed.

Clean Room Packaging, Individually Wrapped, Paper/Plastic, Triple-bagged

Cat. No.	Capacity (mL)	Graduations (mL)	Negative Grads. (mL)	Color-coded Stripe	Qty/Pk	Qty/Cs
7041	1	1/100	0.2	Yellow	50	1,000
7042	2	1/100	0.2	Green	50	1,000
7045	5	1/10	2.5	Blue	50	200
7015	10	1/10	3.0	Orange	50	200
7016	25	2/10	10.0	Red	25	200
7017	50	1/2	10.0	Purple	25	100
7000	100	1	n/a	Aqua	10	100



Shorty Stripette Serological Pipets

Shorty Stripette pipets are 32% shorter than standard-sized pipets enabling more freedom of movement when used under the hood or in other confined spaces. Their shorter size helps to reduce hand, wrist, and arm fatigue sometimes associated with repetitive pipetting. Since they are shorter than standard pipets, they use less plastic and packaging and are more environmentally friendly than standard-sized pipets.

- One-piece design reduces the possibility of particulates
- Printed stripe magnifies the meniscus making volume reading easier
- Individually wrapped in paper/plastic wrap
- Sterile
- Nonpyrogenic
- Noncytotoxic

Cat. No.	Capacity (mL)	Graduations (mL)	Negative Grads (mL)	Color Strip	Qty/Pk	Qty/Cs
4102	5 mL	1/10	3.0	Black	200	200
4103	10 mL	2/10	8.0	Black	100	100

Aspirating Pipets

Aspirating pipets are sterile, ungraduated, and unplugged polystyrene pipets for aspirating liquid using vacuum suction.

Cat. No.	Volume (mL)	Packaging	Qty/Pk	Qty/Cs
4975	1	Individually wrapped, bulk packed	50	1,000
9186	2	Individually wrapped, clear plastic wrap	100	1,000
9016	2	Individually wrapped, paper/plastic wrap	50	500
9099	5	Individually wrapped, clear plastic wrap	50	200

For Corning® Stripettor™ and Lambda® pipettors, see the **Equipment** section of this catalog. For Falcon® aspirating pipets, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Pipet Tips

Remove deck from reload system.

Insert deck into hinged rack.

Corning® DeckWorks™ Reload Systems

Corning DeckWorks reload systems are available in 10 µL, 200 µL, 300 µL, and 1,000 µL sizes and allow for convenient and economical reloading of durable Corning DeckWorks hinged racks. DeckWorks reload decks are packaged in transparent trays for easy tip identification, requires no transfer devices, saves space, and minimizes packaging waste. Although the pipet tips are made from virgin medical-grade resins, the reload decks and rack bases are manufactured from 100% recycled polypropylene. Nonsterile decks and racks are steam autoclavable.

Corning DeckWorks low binding tips are available in 10 µL, 200 µL, and 300 µL sizes. Proprietary low binding technology reduces surface tension on the interior wall of the tip. Leaching and/or subsequent sample degradation associated with silicone-based tips is eliminated. DeckWorks low binding tips are ideal for quantitative assays in which sample binding can significantly alter results. Specific applications include accurate and precise pipetting of expensive reagents, DNA, proteins, and/or peptides.

Standard Tips

Cat. No.	Volume Range (µL)	Color	Sterile	Decks/Pk	Tips/Pk	Pks/Cs
4125	0.1 - 10	Natural	No	10	960	4
4126	1 - 200	Natural	No	10	960	4
4127	1 - 200	Yellow	No	10	960	4
4128	1 - 300	Natural	No	10	960	4
4129	100 - 1,000*	Natural	No	8	768	4

*Maximum working volume is 1250 µL.

Low Binding Tips

4153	0.1 - 10	Natural	No	10	960	4
4154	1 - 200	Natural	No	10	960	4
4155	1 - 300	Natural	No	10	960	4

Corning DeckWorks Reload System Starter Kits

DeckWorks starter kits contain one DeckWorks reload system with standard tips and empty hinged racks.

- 10 empty racks accompany 10 µL, 200 µL, and 300 µL volume tips
- 8 empty racks accompany 1000 µL volume tips

Cat. No.	Volume Range (µL)	Color	Sterile	Decks/Pk	Tips/Pk	Pks/Cs
4130	0.1 - 10	Natural	No	10	960	1
4131	1 - 200	Natural	No	10	960	1
4132	1 - 200	Yellow	No	10	960	1
4133	1 - 300	Natural	No	10	960	1
4134	100 - 1,000	Natural	No	8	768	1

Corning® DeckWorks™ Hinged Rack Pipet Tips

Standard Tips

Corning universal fit tips in hinged DeckWorks racks are available in 10 µL, 200 µL, 300 µL, and 1,000 µL sizes. The 10 µL, 300 µL, and 1,000 µL tips are extended length and allow for improved access into microcentrifuge (1.5 mL) and standard conical bottom (15/50 mL) centrifuge tubes. Robust 96-tip racks are designed for repeated steam autoclave cycles and can be reused by removing the empty grey tip deck and replacing it with a new reload deck of 96 tips from the DeckWorks reload system. Corning racked 300 µL DeckWorks pipet tips are designed for all popular 300 µL multi-channel instruments.

Cat. No.	Volume Range (µL)	Color	Sterile	Racks/Pk	Tips/Pk	Packs/Cs
4120	0.1 - 10	Natural	Yes	10	960	4
4115	0.1 - 10	Natural	No	10	960	4
4121	1 - 200	Natural	Yes	10	960	4
4116	1 - 200	Natural	No	10	960	4
4122	1 - 200	Yellow	Yes	10	960	4
4117	1 - 200	Yellow	No	10	960	4
4123	1 - 300	Natural	Yes	10	960	4
4118	1 - 300	Natural	No	10	960	4
4124	100 - 1,000	Natural	Yes	8	768	4
4119	100 - 1,000	Natural	No	8	768	4

Low Binding Tips

Corning DeckWorks low binding tips are available in 10 µL, 200 µL, and 300 µL sizes. Proprietary low binding technology reduces surface tension on the interior wall of the tip. Leaching and/or subsequent sample degradation associated with silicone-based tips are eliminated. DeckWorks low binding tips are ideal for quantitative assays in which sample binding can significantly alter results. Specific applications include accurate and precise pipetting of expensive reagents, DNA, proteins and/or peptides.

Cat. No.	Volume Range (µL)	Color	Sterile	Racks/Pk	Tips/Pk	Packs/Cs
4150	0.1 - 10	Natural	Yes	10	960	4
4147	0.1 - 10	Natural	No	10	960	4
4151	1 - 200	Natural	Yes	10	960	4
4148	1 - 200	Natural	No	10	960	4
4152	1 - 300	Natural	Yes	10	960	4
4149	1 - 300	Natural	No	10	960	4

Low Binding Barrier Tips

Corning DeckWorks low binding barrier tips feature an inert, high-density polyethylene barrier to eliminate aerosol carryover contamination during critical pipetting procedures. DeckWorks low binding barrier tips will not trap liquids or inhibit PCR in the event of over pipetting.

Cat. No.	Volume Range (µL)	Color	Sterile	racks/Pk	Tips/Pk	Packs/Cs
4135	0.1 - 10	Natural	Yes	10	960	4
4136	1 - 20	Natural	Yes	10	960	4
4137	1 - 100	Natural	Yes	10	960	4
4138	1 - 200	Natural	Yes	10	960	4
4139*	1 - 200	Natural	Yes	8	768	4
4140	100 - 1,000	Natural	Yes	8	768	4

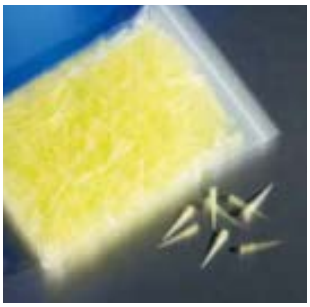
*The unique design of this extended-length tip allows standardization across a wide range of 20 µL, 50 µL, 100 µL, and 200 µL pipettors.

Corning® DeckWorks Tip Station

Corning DeckWorks tip station takes less space than other brands

Corning DeckWorks tip station maximizes bench space while minimizing plastic waste. Tip stations contain 960 tips, are available in extended-length 10 µL and traditional 200 µL sizes, and are the ideal single and multi-channel pipetting stations. The 5-layer deck design (2 x 96) matches the microtiter plate format. This stable pipetting platform fits easily into sterile hood environments. Lids can be snap-positioned to expose a single side (96 tips) only. Applications include pre- and post-PCR procedures, cell culture, and assays requiring large tip quantities. Corning DeckWorks tip stations are offered both sterile and nonsterile.

Cat. No.	Volume Range (µL)	Color	Sterile	Tips/Pk	Packs/Cs
4141	0.1 - 10	Natural	No	960	5
4143	0.1 - 10	Natural	Yes	960	5
4142	1 - 200	Natural	No	960	5
4144	1 - 200	Natural	Yes	960	5



Bulk Tips

Corning DeckWorks bulk pipet tips are compatible with DeckWorks racks and packaged in resealable polyethylene bags. Tip sizes include 10 µL, 200 µL, and 1000 µL and offer maximum savings.

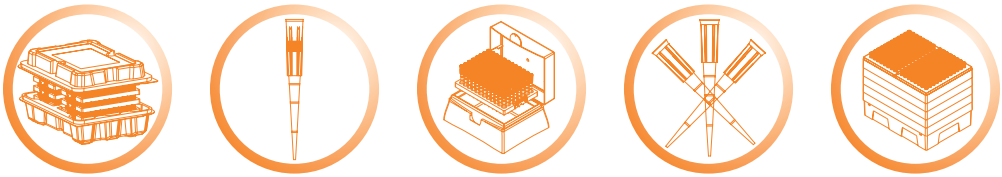
Cat. No.	Volume Range (µL)	Color	Sterile	Tips/Pk	Packs/Cs
4110	0.1 - 10	Natural	No	1000	10,000
4111	1 - 200	Natural	No	1000	10,000
4112	1 - 200	Yellow	No	1000	10,000
4114	100 - 1,000	Natural	No	768	7,680

Corning® DeckWorks™ Pipet Tips and Pipettor Compatibility Guide

	CORNING								GILSON®						SARTORIUS BIOHIT						
Volume	**Lambda® Plus 2 µL** Single-Channel	**Lambda Plus 10 µL** Single- and Multi-channel	**Lambda Plus 20 µL** Single-channel	**Lambda Plus 50 µL** Multi-channel	**Lambda Plus 100 µL** Single-channel	**Lambda Plus 200 µL** Single- and Multi-channel	**Lambda Plus 300 µL** Multi-channel	**Lambda Plus 1,000 µL** Single-channel	**Pipetman® 2 µL** Single-channel	**Pipetman 10 µL** Single-channel	**Pipetman 20 µL** Single-channel	**Pipetman 100 µL** Single-channel	**Pipetman 200 µL** Single- and Multi-channel	**Pipetman 1,000 µL** Single-channel	**Proline® 2.5 µL** Single-channel	**Proline 10 µL** Single- and Multi-channel	**Proline 50 µL** Single- and Multi-channel	**Proline 100 µL** Single- and Multi-channel	**Proline 250 µL** Multi-channel	**Proline 300 µL** Single- and Multi-channel	**Proline 1,000 µL** Single-channel
STANDARD TIPS																					
0.1 - 10 µL	■	■							■	■					■	■					
1 - 200 µL			■	■	■	■					■	■	■				■	■			
1 - 300 µL			■	■	■	■	■				■	■	■				■	■	■	■	
100 - 1,000 µL								■						■							■
BARRIER TIPS																					
0.1 - 10 µL	■	■							■	■					■	■					
1 - 20 µL			■								■										
1 - 100 µL					■							■					■	■			
1 - 200 µL						■							■								
1 - 200 µL*			■	■	■	■					■	■	■				■	■	■		
100 - 1,000 µL								■						■							■

*Extended length

The DeckWorks Pipet Tip System Solution Includes:



RELOADS | BARRIER TIPS | RACKED TIPS | BULK TIPS | TIP STATION

EPPENDORF							THERMOLABSYSTEMS								OXFORD/NICHIRYO						
Research®/Reference® 2.5 µL Single-channel	**Research/Reference 10 µL** Single- and Multi-channel	**Research/Reference 20 µL** Single-channel	**Research/Reference 100 µL** Single- and Multi-channel	**Research/Reference 200 µL** Single-channel	**Research/Reference 300 µL** Single- and Multi-channel	**Research/Reference 1,000 µL** Single-channel	**Finnpipette™ 2 µL** Single-channel	**Finnpipette 10 µL (micro)** Single- and Multi-channel	**Finnpipette 10 µL (Universal)** Single-channel	**Finnpipette 20 µL** Single-channel	**Finnpipette 50 µL** Single- and Multi-channel	**Finnpipette 100 µL** Single-channel	**Finnpipette 200 µL** Single-channel	**Finnpipette 300 µL** Single- and Multi-channel	**Finnpipette 1,000 µL** Single-channel	**Benchmate® 2 µL** Single-channel	**Benchmate 10 µL** Single-channel	**Benchmate 20 µL** Single-channel	**Benchmate 50 µL** Single- and Multi-channel	**Benchmate 100 µL** Single-channel	**Benchmate 200 µL** Single- and Multi-channel	**Benchmate 1,000 µL** Single-channel
■	■						■	■								■	■					
		■	■	■					■	■	■	■	■					■	■	■	■	
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						■										■						■

Corning® DeckWorks™ Pipet Tips Size Guide

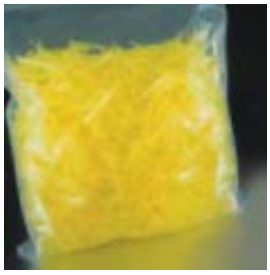
Corning DeckWorks extended-length pipet tips minimize contamination issues often associated with traditional pipet tip styles.

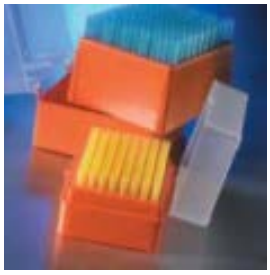
Standard Tips

Barrier Tips


Racked pipet tips


Stack rack pipet tips


Bulk pack pipet tips


Universal fit hinged rack pipet tips

Corning® Universal Fit 200 µL and 1000 µL Pipet Tips

- Corning universal fit tips are designed to provide a reliable fit with most major brand pipettors. (A Pipet Tip Compatibility Guide can be requested or downloaded from the Corning website).
- Beveled orifice helps ensure accurate fluid delivery.
- 1-200 µL universal fit tips are graduated at the 250 µL, 500 µL, and 1,000 µL volumes.
- Select from three packaging options:
  - Stack rack tips feature a stack of five racks, each containing 96 tips, for a total of 480 tips in a space-saving design.
  - Bulk packed tips are nonsterile and economical.
- RNase-/DNase-free
- Nonpyrogenic

Racked Tips

Cat. No.	Volume Range (µL)	Format	Color	Sterile	Racks/Cs	Tips/Cs
4863	1 - 200	96 tips/rack	Natural	No	10	960
4864	1 - 200	96 tips/rack	Natural	Yes	10	960
4865	1 - 200	96 tips/rack	Yellow	No	10	960
4860	1 - 200	96 tips/rack	Yellow	Yes	10	960
4867	100 - 1,000	100 tips/rack	Blue	No	10	1,000
9032	100 - 1,000	100 tips/rack	Blue	Yes	10	1,000

Stack Rack Pipet Tips

4803	1 - 200	480 tips/stack rack	Natural	No	10	4,800
4804	1 - 200	480 tips/stack rack	Natural	Yes	10	4,800
4806	1 - 200	480 tips/stack rack	Natural	No	2	960

Universal Fit Hinged Rack Pipet Tips

4711	1 - 200	96 tip hinged rack	Yellow	Yes	10	960
4712	1 - 200	96 Tip hinged rack	Yellow	No	10	960
4710	1 - 200	96 tip insert for hinged rack	Yellow	No	10 Inserts	960
4714	100 - 1,000	100 tip hinged rack	Blue	Yes	10	1,000
4713	100 - 1,000	100 tip hinged rack	Blue	No	10	1,000
4715	100 - 1,000	100 tip insert for hinged rack	Blue	No	10 Inserts	1,000

Bulk Packed Pipet Tips

4844	1 - 200	Bulk pack	Natural	No	1,000	10,000
4862	1 - 200	Bulk pack	Natural	No	1,000	1,000
4845	1 - 200	Bulk pack	Yellow	No	1,000	10,000
4866	1 - 200	Bulk pack	Yellow	No	1,000	1,000
4846	100 - 1,000	Bulk pack	Blue	No	1,000	10,000
4868	100 - 1,000	Bulk pack	Blue	No	1,000	1,000

IsoTip Filtered Pipet Tips

- IsoTip filtered pipet tips feature an inert, hydrophobic barrier that prevents aerosolized contaminants from coming in contact with pipettor shafts. (A Pipet Tip Compatibility Guide can be requested or downloaded from the Corning website.)
- Ideal for applications where avoiding cross contamination is critical, such as DNA amplification and radioisotope handling
- Packaged sterile
- RNase-/DNase-free
- Nonpyrogenic

Cat. No.	Volume Range (µL)	Precise Fit	Tips/ rack	Racks/ Cs	Tips/ Cs
4801	0.1 - 2.0	Gilson® and other popular ultra-micropipettors	96	10	960
4807	0.2 - 10	Gilson and other popular ultra-micropipettors	96	10	960
4808	0.5 - 10	Eppendorf® and other popular ultra-micropipettors	96	10	960
4821	1 - 30	All popular research-grade pipettors	96	10	960
4823	1 - 200	All popular research-grade pipettors	96	10	960
4810*	1 - 200	All popular research-grade pipettors	96	10	960
4809	100 - 1,000	All popular research-grade pipettors	100	10	1,000

*Extended-length tip designed for use with 2 µL to 20 µL, 10 µL to 100 µL, and 20 µL to 200 µL pipettors.

1 µL to 200 µL Gel-loading Pipet Tips

- Corning® gel-loading pipet tips feature a capillary end that allows easy access into vertical and horizontal electrophoresis gels.
- Total capacity of 200 µL
- Tips are 83 mm in length.
- RNase-/DNase-free
- Nonpyrogenic

Cat. No.	Tip Shape	End Thickness (mm)	Sterile	Tips/rack	Racks/Cs	Tips/Cs
4853	Round	0.5	No	200	2	400
4854	Flat	0.4	No	200	2	400
4884	Flat	0.2	No	200	2	400

Microvolume Gel-loading Pipet Tips

- Corning microvolume gel-loading tips feature a capillary end for gel-loading and are designed for use with Gilson and other popular ultra-micropipettors.
- Working volume of 0.2 µL to 10 µL
- RNase-/DNase-free
- Nonpyrogenic

Cat. No.	Tip Shape	End Thickness (mm)	Sterile	Tips/rack	Racks/Cs	Tips/Cs
4815	Flat	0.2	No	200	2	400

For reagent reservoirs, liquid transfer systems, and aspirators, see **Equipment** section of this catalog.

For Axygen® pipet tips, see the **Axygen Product Selection Guide** (CLS-A-PSG-001).

Microvolume Pipet Tips

- Microvolume tips provide accurate, reliable performance in the 0.1 µL to 10 µL range for major brand ultra-micropipettors
- RNase-/DNase-free
- Nonpyrogenic

Cat. No.	Volume Range (µL)	Fit	Sterile	Qty/Pk	Tips/Cs
4826	0.1 - 10	Gilson and other popular ultra-micropipettors	No	96/rack	960
4894	0.1 - 10	Gilson and other popular ultra-micropipettors	Yes	96/rack	960
4840	0.1 - 10	Gilson and other popular ultra-micropipettors	No	1,000/bag	10,000
4830	0.5 - 10	Eppendorf and other popular ultra-micropipettors	Yes	96/rack	960
4834	0.5 - 10	Eppendorf and other popular ultra-micropipettors	No	96/rack	960
4901	0.5 - 10	Eppendorf and other popular ultra-micropipettors	No	1,000/bag	10,000

Vacuum Filtration

150 mL Tube Top Vacuum Filters

- 42 mm square membrane
- Minimizes unnecessary transfers by filtering directly into 50 mL centrifuge tube
- Includes two centrifuge tube stands with each case
- Each polypropylene centrifuge tube is supplied with an individually wrapped cap for storage.
- Individually packaged
- Sterile
- Nonpyrogenic

Cat. No.	Membrane	Funnel Size/Tube Size (mL)	Pore Size (µm)	Qty/Cs
430314	CA	150/50	0.45	12
430320	CA	150/50	0.22	12

CA = cellulose acetate.

Vacuum Filtration Systems

- Four sizes: 150 mL, 250 mL, 500 mL, and 1L with 45 mm neck size
- Low liquid retention funnel design
- Filters feature printing on the funnel for easy product identification
- Angled hose connector simplifies vacuum line attachment.
- Receiver bottles feature easy grip sides for improved handling.
- Extra plastic storage bottles are available.
- Prefilters must be ordered separately.
- Individually packaged
- Sterile
- Nonpyrogenic
- Caps for receiver bottles are sterile and individually packaged.

150 mL Capacity, 42 mm Square Membrane

Cat. No.	Membrane	Funnel/Bottle Volume (mL)	Pore Size (µm)	Qty/Cs
431153	PES	150/150	0.22	12
431154	CA	150/150	0.22	12
431155	CA	150/150	0.45	12
250 mL Capacity, 49.5 mm Square Membrane				
430756	CN	250/250	0.22	12
430767	CA	250/250	0.22	12
430768	CA	250/250	0.45	12
430771	NY	250/250	0.2	12
431096	PES	250/250	0.22	12

PES = polyethersulfone, CA = cellulose acetate, CN = cellulose nitrate, NY = Nylon.

Visit **www.corning.com/lifesciences** for additional product and technical information.

Vacuum Filtration Systems (Continued)

500 mL Capacity, 63 mm Square Membrane

Cat. No.	Membrane	Funnel/Bottle Volume (mL)	Pore Size (µm)	Qty/Cs
430758	CN	500/500	0.22	12
430769	CA	500/500	0.22	12
430770	CA	500/500	0.45	12
430773	NY	500/500	0.2	12
431097	PES	500/500	0.22	12
431475	PES	500/500	0.1	12
1,000 mL Capacity, 79 mm Square Membrane				
430186	CN	1,000/1,000	0.22	12
430515	NY	1,000/1,000	0.2	12
430516	CA	1,000/1,000	0.45	12
430517	CA	1,000/1,000	0.22	12
431474	PES	1,000/1,000	0.1	12
431098	PES	1,000/1,000	0.22	12
431205*	CA	500*/1,000	0.22	12
431206*	CA	500*/1,000	0.45	12

*500 mL funnel with 63 mm membrane.
PES = polyethersulfone, CA = cellulose acetate, CN = cellulose nitrate, NY = Nylon.

For technical information, please refer to pages G24-G35.

Bottle Top Vacuum Filters

- Three sizes: 150 mL, 500 mL and 1,000 mL
- Low liquid retention funnel design
- Available in 33 mm and 45 mm neck sizes to fit most glass and plastic media storage bottles.
- 45 mm neck sizes fit on Corning® glass 1395 bottles, to be used on 2L and smaller sizes only.
- Prefilters must be ordered separately.
- Individually packaged
- Sterile
- Nonpyrogenic

150 mL Capacity, 42 mm Square Membrane

Cat. No.	Membrane	Volume (mL)	Neck Size (mm)	Pore Size (µm)	Qty/Cs
430624	CA	150	33	0.22	48
430625	CA	150	33	0.45	48
430626	CA	150	45	0.22	48
430627	CA	150	45	0.45	48
431160	PES	150	33	0.22	48
431161	PES	150	45	0.22	48
500 mL Capacity, 63 mm Square Membrane					
430049	NY	500	45	0.2	12
430512	CA	500	33	0.45	12
430513	CA	500	45	0.22	12
430514	CA	500	45	0.45	12
430521	CA	500	33	0.22	12
431117	PES	500	33	0.22	12
431118	PES	500	45	0.22	12
1,000 mL Capacity, 79 mm Square Membrane					
430015	CA	1,000	45	0.22	12
431174	PES	1,000	45	0.22	12

PES = polyethersulfone, CA = cellulose acetate, CN = cellulose nitrate, NY = Nylon.

Corning® Glass Fiber Prefilters

For use with vacuum filtration systems or bottle top vacuum filters

Cat. No.	Shape	Filter Funnel (mL)	Qty/Cs
431410	42 mm square	150	100
431411	49.5 mm square	250	100
431412	63 mm square	500	100
431413	79 mm square	1000	100

For technical information, please refer to pages G24-G35.

Syringe Filters

- A variety of membranes are available to meet your needs: Polyethersulfone (PES) – low protein binding and faster flow rates; surfactant-free cellulose acetate (SFCA) – lowest protein binding; polytetrafluorethylene (PTFE) – chemical resistance; regenerated cellulose (RC) – best choice for DMSO compatibility; Nylon (NY) – hydrophilic, surfactant-free, and lowest extractable.
- 100% integrity tested, nonpyrogenic and noncytotoxic, manufactured in accordance with ISO 9002 standards

Cat. No.	Diameter (mm)	Pore Size (µm)	Membrane Material	Housing Material	Sterile	Inlet/ Outlet	Packaging	Qty/Cs
431212	4	0.2	RC	PP	Yes	LL/LS	Individual	50
431215	15	0.2	RC	PP	Yes	LL/LS	Individual	50
431218	28	0.2	SFCA-PF	AC	Yes	LL/LS	Individual	50
431219	28	0.2	SFCA	AC	Yes	LL/LS	Individual	50
431220	28	0.45	SFCA	AC	Yes	LL/LS	Individual	50
431221	28	0.8	SFCA	AC	Yes	LL/LS	Individual	50
431222	25	0.2	RC	PP	Yes	LL/LS	Individual	50
431224	25	0.2	NY	PP	Yes	LL/LS	Individual	50
431225	25	0.45	NY	PP	Yes	LL/LS	Individual	50
431227*	50	0.2	PTFE	PP	Yes	HB/HB	Individual	12
431229	28	0.2	PES	AC	Yes	LL/LS	Individual	50
431231	25	0.45	PTFE	PP	No	LL/LS	Bulk	50

*Recommended as in-line air filter.
PP = polypropylene, AC = acrylic copolymer, LL = Luer lock/female, LS = Luer slip/male, HB = hose barb, NY = Nylon, PES = polyethersulfone, PTFE = polytetrafluorethylene, RC = regenerated cellulose, SFCA = surfactant free cellulose acetate, SFCA-PF = surfactant free cellulose acetate with prefilter.

Spin-X® Centrifuge Tube Filters

- Spin-X centrifuge tube filters consist of a membrane-containing filter unit within a microcentrifuge tube.
- Uses:
  - Removing bacteria, cells, and particles from liquids
  - HPLC sample preparation
  - DNA removal from agarose or acrylamide gels. Maximum RCF is 16,000 x g.

Cat. No.	Membrane Material	Working Volume (µL)	Pore Size (µm)	Sterile	Tube Size (mL)	Qty/Cs
8160	CA	500	0.22	Yes	2.0	96
8161	CA	500	0.22	No	2.0	100
8162	CA	500	0.45	Yes	2.0	96
8163	CA	500	0.45	No	2.0	100
8169	NY	500	0.22	No	2.0	200
8170	NY	500	0.45	No	2.0	200

CA = cellulose acetate, NY = Nylon.

For technical information, please refer to pages G24-G35.

Spin-X® UF Concentrators

Spin-X UF centrifugal concentrators offer a simple, one step procedure for concentrating or desalting proteins and other biomolecules with 90% or better recovery.

- The vertical membrane design and thin channel filtration chamber minimizes membrane fouling and provides fast, high speed concentrating, even with particle laden solutions.
- Low binding polyethersulfone (PES) membranes are available with five molecular weight cut-offs (MWCO): 5,000, 10,000, 30,000, 50,000, and 100,000 to meet all of your concentrating needs. Choose an MWCO half to a third smaller than the protein to be concentrated.
- The MWCO and graduations are printed on the side of the concentrator tube to avoid mix-ups
- Spin-X UF 6 and 20 concentrators can be used with either swinging bucket or fixed angle rotors. Spin-X UF 500 concentrators require fixed angle rotors.

Spin-X UF 500

431477	Spin-X UF 500	500 µL	5,000 MWCO	25
431478	Spin-X UF 500	500 µL	10,000 MWCO	25
431479	Spin-X UF 500	500 µL	30,000 MWCO	25
431480	Spin-X UF 500	500 µL	50,000 MWCO	25
431481	Spin-X UF 500	500 µL	100,000 MWCO	25

Spin-X UF 6

Cat. No.	Description	Capacity	Membrane	Qty/Pk
431482	Spin-X UF 6	6 mL	5,000 MWCO	25
431483	Spin-X UF 6	6 mL	10,000 MWCO	25
431484	Spin-X UF 6	6 mL	30,000 MWCO	25
431485	Spin-X UF 6	6 mL	50,000 MWCO	25
431486	Spin-X UF 6	6 mL	100,000 MWCO	25

Spin-X UF 20

431487	Spin-X UF 20	20 mL	5,000 MWCO	12
431488	Spin-X UF 20	20 mL	10,000 MWCO	12
431489	Spin-X UF 20	20 mL	30,000 MWCO	12
431490	Spin-X UF 20	20 mL	50,000 MWCO	12
431491	Spin-X UF 20	20 mL	100,000 MWCO	12

A Size to Fit All Your Concentrating Needs

Spin-X UF 500

Spin-X UF 6

Spin-X UF 20

For technical information, please refer to page G28.

Bottles

Polystyrene Storage Bottles

Corning low profile easy grip style storage bottles

- Disposable polystyrene bottles for storage of media, buffers, and other aqueous solutions
- Corning® low profile style with easy grip sides that facilitate handling
- Costar® traditional style with smooth sides
- Plug seal caps (45 mm) provide an airtight seal and help minimize the risk of contamination.
- Bottles can be used with Corning® vacuum filtration systems with 45 mm neck sizes, see pages G12-G13.
- Sterile
- Nonpyrogenic

Costar traditional style storage bottles

Corning Low Profile Easy Grip Style Storage Bottles

Cat. No.	Volume (mL)	Neck Size (mm)	Qty/Pk	Qty/Cs
431175	150	45	2	24
430281	250	45	2	24
430282	500	45	2	24
430518	1,000	45	2	24

Costar Traditional Style Storage Bottles

Cat. No.	Volume (mL)	Neck Size (mm)	Qty/Pk	Qty/Cs
8388	125	45	1	24
8390	250	45	1	12
8393	500	45	1	12
8396	1,000	45	1	12

Corning Square PET Storage Bottles

- Good for storage of media, buffers and other aqueous solutions
- Available in four sizes: 125 mL, 250 mL, 500 mL, and 1L
- Large 37 mm opening provides easier access for liquid transfer
- Screened white enamel graduations are easier to read than molded graduations
- Large white marking spot for easier identification
- Individually packaged bottles have Sterility Assurance Level (SAL) of 10^{-6}.
- Bottles are validated USP Class VI, noncytotoxic, and nonpyrogenic

Cat. No.	Capacity (mL)	Thread Finish	Neck I.D. Size (mm)	Approx. Diam. x Height (mm)	Grad. Range (mL)	Grad. Interval (mL)	Qty/ Pk	Qty/ Cs
431530	125	GL 45	37	52.5 x 106.5	50 - 125	25	12	24
431531	250	GL 45	37	59 x 142.5	50 - 250	25	12	24
431532	500	GL 45	37	77 x 176	100 - 500	50	12	24
431533	1000	GL 45	37	92 x 216.5	100 - 1000	50	12	24

Corning® Square Polycarbonate Storage Bottles

- Strong, easier to handle, require less space (13% to 20%) on the shelf or in the autoclave
- Ideal for mixing, sampling, and storage
- Strong polycarbonate bottles are more break-resistant than other glass or plastic bottles.
- Use a linerless, 45mm one-piece autoclavable orange GL 45 threaded polypropylene plug seal cap.
- Screened white enamel graduations are easier to see than molded graduations.
- Sterile
- Bottles can be autoclaved once at 121°C and 15 psi. Repeated autoclaving weakens polycarbonate and is not recommended.
- Store up to -80°C.

Cat. No.	Capacity (mL)	Shape	Bottle Material	Neck Diam. (mm)	Qty/Bag	Qty/Cs
431430	150	Square	Polycarbonate	45	1	24
431431	250	Square	Polycarbonate	45	1	24
431432	500	Square	Polycarbonate	45	1	24
431433	1000	Square	Polycarbonate	45	1	24

Corning offers reusable GL 45 septa caps for these storage bottles with a choice of silicone septa or PTFE-faced silicone septa.

Optional Caps and Accessories

Cat No.	Description	Thread Finish	Qty/Cs
1395-45HTSC	Cap, open top PBT high temperature	GL 45	10
1395-45SS	Septa, Silicone	N/A	10
1395-45TS	Septa, PTFE-faced silicone	N/A	10

Note: Most GL 45 threaded caps designed for glass storage bottles use a different sealing design and will not give a secure seal if used on these plastic bottles.
Caution: These square PET bottles should NOT be used with bottle top filter units, or in other applications involving vacuum pressure, as breakage may occur.

Corning Octagonal PET Bottles

- Available in six sizes: 30 mL, 60 mL, 125 mL, 250 mL, 500 mL, and 1L
- Packaged in convenient, shrink-wrapped trays within an outer bag to assure cleanliness
- Break-resistant bottles are an ergonomic and easy to handle alternative to glass.
- Leak-proof, tamper-evident HDPE screw cap
- Molded graduations for accurate measurements
- USP class VI compliant bottles are validated noncytotoxic and nonhemolytic.
- Bottles have Sterility Assurance Level (SAL) of 10^{-6}.
- Nonpyrogenic

Cat. No.	Capacity (mL)	Bottle Material	Screw Cap Color	Neck I.D. (mm)	Screw Cap (mm)	Qty/Tray	Qty/Cs
431729	30	PET*	Natural	17.5	21.0	24	120
431730	60	PET	Natural	17.5	21.0	24	96
431731	125	PET	Natural	31.7	34.7	24	48
431732	250	PET	Natural	31.7	34.7	24	48
431733	500	PET	Natural	31.7	34.7	12	24
431734	1000	PET	Natural	31.7	34.7	12	24

*Polyethylene terephthalate.

For a complete list of Corning storage bottles, visit **www.corning.com/lifesciences.**

Containers

Corning® Flexible Polypropylene Sample Container

- Flexible polypropylene bottom with snap-on polyethylene lid serves as a beaker or storage container.
- Graduated in both milliliters and ounces
- Nonpyrogenic

Cat. No.	Description	Sterile	Capacity (mL)	Qty/Pk	Qty/Cs
430179	Container and lid	Yes	250	1	100
430180	Container only	Yes	250	20	500
430181	Lid only	Yes	n/a	20	500

Corning Coliform Water Test Disposable Sample Container, Sterile with Sodium Thiosulfate Tablet

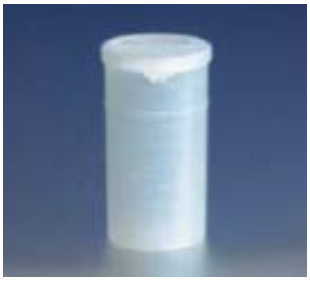
Sterile container used in testing for the presence of coliform, a microbiological contaminant in drinking water. Manufactured from pure polypropylene in a sterile environment. The one-piece container has attached lid to reduce chance of contamination. Locking arrow assures sterility has not been compromised. The EPA fill line of 100 mL ±2.5% makes it easy to use. A sodium thiosulfate tablet has been added to each container thus saving lab prep time and expense. Leak-tight when sealed properly. An added benefit is the tie-down to protect from accidental opening and also serves as a custody seal. Sample label and instructions for use are supplied with each container. A low cost, convenient product which meets EPA requirements.

Cat. No.	Description	Capacity (mL)	Approx. Diam. x Height (mm)	Qty/Cs
1700-100	Container with tablet	100-120	65 x 120	100

Corning Water Test Disposable Sample Container, Sterile without Sodium Thiosulfate Tablet

Sterile container used in the testing of non-chlorinated drinking water. Manufactured from pure, recyclable polypropylene. The one-piece container has attached lid to reduce chance of contamination. Locking arrow assures sterility has not been compromised. Leak-tight when sealed properly. An added benefit is the tie-down which protects against accidental opening.

Cat. No.	Description	Capacity (mL)	Approx. Diam. x Height (mm)	Qty/Cs
1705-100	Container without tablet	100-120	65 x 120	100



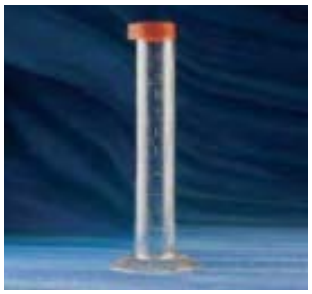
Corning Snap-seal Disposable Plastic Sample Containers

Designed for a wide variety of applications, these containers provide a reliable leak-tight seal when closed properly. The Snap-Seal locking device keeps the cap closed and secure. The specially designed hinged cap stays in place in use, reducing the chance of sample contamination. The containers are made of recyclable polypropylene, in a translucent style for normal usage. The containers are graduated in both milliliters and ounces, and the cap has a rough surface for marking.

Cat. No.	Capacity	Color	Approx. Diam. x Height (mm)	Qty/Cs
1730-5X	0.45 oz. (13 mL)	Natural	16 x 94	500
1730-2C	1.5 oz. (45mL)	Natural	30 x 84	400
1730-4H	4 oz. (120 mL)	Natural	45 x 91	200
1730-4L	4 oz. (120 mL)	Natural	68 x 52	200
1730-8	8 oz. (240 mL)	Natural	80 x 75	100
1730-10	10 oz. (300 mL)	Natural	63 x 112	100

For Falcon® containers, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Cylinder



Corning® Graduated Cylinder

The 100 mL Corning optically clear polystyrene graduated cylinder is designed for aseptic and accurate dispensing of sterile culture media or other biological fluids. A polyethylene dust cover is included.

- Optically clear polystyrene
- Graduated for accurate dispensing
- Polyethylene dust cover included
- Sterile

Cat. No.	Capacity (mL)	Graduation (mL)	Sterile	Qty/Pk	Qty/Cs
430182	100	1	Yes	1	50

Spatulas

Spatulas

Microspatulas

Disposable Anti-static Spatulas

- Corning spatulas are designed to save time and to provide contamination-free samples.
- Eliminates the recycling and resterilizing necessary with reusable spatulas
- Available in five different configurations
- Microspatulas available in two configurations
- Individually packaged
- Antistatic
- Sterile
- RNase-/DNase-free
- Nonpyrogenic

Cat. No.	Description	Qty/Cs
3003	Spatula, tapered blade/spoon	100
3004	Spatula, small spoon/spoon	100
3005	Spatula, round end/spoon	100
3006	Spatula, V-scoop/spoon	100
3007	Spatula, flat end/spoon	100
3012	Microspatula, tapered end/scoop	50
3013	Microspatula, rounded end/scoop	50

For Falcon® spatulas, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Centrifuge Tubes

15 mL Centrifuge Tubes

- Corning® 15 mL centrifuge tubes feature black printed graduations and a large white marking spot
- Available with your choice of cap styles: the advanced Corning CentriStar™ cap or the original plug seal cap
- Sterile
- RNase-/DNase-free
- Nonpyrogenic
- 95 kPA (14 psi) pressure tested – plug seal cap only

Cat. No.	Material	Cap Style	Max. RCF	Qty/Pk	Qty/Cs
430053	PET	Plug seal	3,600	25/sleeve	500
430055	PET	Plug seal	3,600	50/rack	500
430052	PP	Plug seal	12,000	50/rack	500
430766	PP	Plug seal	12,000	25/sleeve	500
430790	PP	CentriStar	12,500	50/rack	500
430791	PP	CentriStar	12,500	25/sleeve	500
431470	PP	No cap (tube only)	12,000	25/sleeve	500
431471	PP	CentriStar cap only (no tube)	12,000	100/sleeve	500
431355	Foam centrifuge tube rack, 15 mL		–	–	20

PP = polypropylene, PET = polyethylene terephthalate, RCF = relative centrifugal force (x g).

50 mL Centrifuge Tubes

- Corning 50 mL centrifuge tubes feature black printed graduations and a large white marking spot
- Available with your choice of cap styles: the advanced CentriStar cap or the original plug seal cap
- 95 kPA (14 psi) pressure tested – plug seal cap only
- Simplify your workflow with:
  - Color bands visually identify samples
  - Hazardous materials pictograms that comply with OSHA and GHS standards
- Sterile
- RNase-/DNase-free
- Nonpyrogenic

Easy ID color strip tubes

50 mL centrifuge tube with hazardous materials label

Cat. No.	Material	Cap Style	Max. RCF	Feature	Qty/Pk	Qty/Cs
430304	PET	Plug seal	3,600	Conical bottom	25/rack	500
430290	PP	Plug seal	15,500	Conical bottom	25/rack	500
430291	PP	Plug seal	15,500	Conical bottom	25/sleeve	500
430828	PP	CentriStar	17,000	Conical bottom	25/rack	500
430829	PP	CentriStar	17,000	Conical bottom	25/sleeve	500
4558	PP	CentriStar	17,000	Conical bottom	25/Universal rack*	300
431526	PP	Plug seal	15,500	Easy ID color strip – green, conical bottom	25/Universal rack	300
431527	PP	Plug seal	15,500	Easy ID color strip – orange, conical bottom	25/Universal rack	300
431528	PP	Plug seal	15,500	Easy ID color strip – blue, conical bottom	25/Universal rack	300
431525	PP	Plug seal	15,500	Hazardous materials label, conical bottom	25/Universal rack	300
430897	PP	Plug seal	3,000	Self-standing bottom	25/sleeve	500
430921	PP	CentriStar	3,000	Self-standing bottom	25/sleeve	500

PET = polyethylene terephthalate, PP = polypropylene, RCF = relative centrifugal force (x g).

Self-standing 50 mL Centrifuge Tubes

- Corning® 50 mL centrifuge tubes feature black printed graduations and a large white marking spot.
- Available with your choice of cap styles: the advanced Corning CentriStar™ cap or the original plug seal cap
- 95 kPA (14 psi) pressure tested – plug seal cap only
- Tubes are bulk packed in resealable sleeves.
- Sterile
- RNase-/DNase-free
- Nonpyrogenic

Cat. No.	Material	Cap Style	Max. RCF	Qty/sleeve	Qty/Cs
430897	PP	Plug seal	3,000	25	500
430921	PP	Centristar	3,000	25	500

PP = polypropylene, RCF = relative centrifugal force (x g).

For dimensions of Corning 15 mL and 50 mL centrifuge tubes, contact Corning Scientific Support at ScientificSupport@corning.com.

250 mL and 500 mL Centrifuge Tubes and Support Cushions

- Corning 250 mL and 500 mL polypropylene tubes are ideal for applications requiring large volume centrifugation
- Support cushions must be used with this product unless the rotor has appropriately shaped V-bottom holders
- Tubes are sterile
- Nonpyrogenic

Cat. No.	Description	Material	Cap Style	Max RCF	Qty/Pk	Qty/Cs
430776	250 mL tube	PP	Plug seal	6,000	6	102
430236	250 mL support cushion	PEI	N/A	N/A	N/A	6
431123	500 mL tube	PP	Plug seal	6,000	6	36
431124	500 mL support cushion	PEI	N/A	N/A	N/A	6

PP = polypropylene, PEI = polyetherimide, RCF = relative centrifugal force (x g).

For Falcon® centrifuge tubes, see the **Falcon Product Selection Guide** (CLS-F-PSG-001).

Microcentrifuge Tubes

Corning offers two styles of microcentrifuge tubes: traditional snap cap tubes for quick access or screw cap tubes for greater sealing security.

Costar® Snap Cap Polypropylene Microcentrifuge Tubes

- Supplied nonsterile and are autoclavable
- External graduations and frosted writing spot for easy sample identification
- Positive seal design allows repeated opening and closing.
- Flat cap surface for convenient labeling
- Withstands a maximum RCF of 17,000 x g
- Costar low binding microcentrifuge tubes feature a bonded polymer technology that reduces protein and nucleic acid binding, resulting in better sample recovery.
- RNase-/DNase-free

Snap Cap Microcentrifuge Tubes

Cat. No.	Volume (mL)	Color	Qty/Pk	Qty/Cs
3208	0.65	Natural	500	1,000
3209*	0.65	Rainbow*	200	1,000
3620	1.7	Natural	500	500
3621	1.7	Natural	500	5,000
3622*	1.7	Rainbow*	100	500
3213**	2.0	Natural	500	1,000

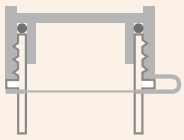
Low Binding Snap Cap Microcentrifuge Tubes

3206	0.65	Natural	500	500
3207	1.7	Natural	250	250

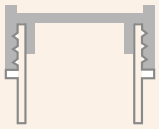
*Rainbow pack includes one bag each of blue, green, yellow, red, and purple tubes.
**2.0 mL Dolphin style tube.

Corning® Screw Cap Polypropylene Microcentrifuge Tubes

- Corning polypropylene microcentrifuge tubes feature screw caps that provide a tight secure seal.
- Choice of attached cap with silicone O-ring or unattached rim seal cap
- Withstands a maximum 20,000 RCF
- Sterile



- Attached loop cap allows for optimum one-handed convenience. Silicone O-ring gasket provides a snug seal, safeguarding samples against leakage.



- Easy-to-use unattached rim seal cap design twists on or off in a single turn.

Cat. No.	Volume (mL)	Cap Style	O-ring	Self-standing	Qty/Cs
430909	1.5	Attached	Yes	No	500
430915	2.0	Attached	Yes	Yes	500
430917	2.0	Unattached	No	Yes	500

Corning® 96-well Cluster Tubes

- Composed of 96 polypropylene tubes in a standard microplate format
- Features 1.2 mL tubes that are available individually or in strips of eight tubes
- Polyethylene tube caps are available in 8-cap strips

Cat. No.	Format	Sterile	Rack	Qty/Pk	Qty/Cs
4401	Individual	No	No	960/bag	960
4410	Individual	No	Yes	96/rack	960
4411	Individual	Yes	Yes	96/rack	960
4408	8-tube strip	No	No	120/bag	120
4412	8-tube strip	No	Yes	12/rack	120
4413	8-tube strip	Yes	Yes	12/rack	120
4418	8-cap strip	Yes	No	12/bag	120

Technical Appendix

Selecting the Best Corning® Syringe or Vacuum Filter for Your Application

Choosing a filter doesn't have to be complicated. Corning has simplified the process. Just follow these four easy steps:

- **Step 1:** Match your application with the best pore size.
- **Step 2:** Select the best Corning membrane and housing material for your application.
- **Step 3:** Select the correct membrane diameter to optimize flow rate and throughput.
- **Step 4:** Choose the best Corning filter design for your application.

Step 1: Match your application with the best pore size.

The pore size is usually determined by your application or objective.

- Routine laboratory sterilization of most media, buffers, biological fluids, and gases is usually done with 0.2 or 0.22 µm pore filter membranes.
- Clarification and prefiltration of solutions and solvents is best accomplished with 0.45 µm or larger filter membranes.
- Prefiltration to improve filter performance can also be accomplished by the use of glass fiber prefilters sold separately.
- Use Table 1 to match your applications with a recommended membrane and pore size.

Step 2: Select the best membrane and housing material for your application.

Your filter unit must be fully compatible with the chemical characteristics of your sample.

- Some filter membranes contain nontoxic wetting agents that may interfere with some applications.
- Other membranes may bind proteins or other macromolecules leading to premature filter clogging or loss of valuable samples.

Therefore, it is very important to understand their characteristics and the potential effects filter membranes can have on the solutions they contact. The information from Tables 2 and 3 will help you choose the best Corning membranes for your applications:

Polyethersulfone (PES) membranes are best for filtering cell culture media and sera. PES has both very low protein binding and extractables. PES also demonstrates faster flow rates than cellulosic or nylon membranes.

Cellulose acetate (CA) membranes have a very low binding affinity for most protein binding, such as filtering culture media containing sera. However, both cellulose acetate and cellulose nitrate membranes are naturally hydrophobic and contain small amounts (less than 1%) of nontoxic wetting agents added during manufacture to ensure proper wetting of the membrane. If desired, these agents can be easily removed prior to use by filtering a small amount of warm purified water through the membrane or filter unit. Surfactant free cellulose acetate membranes, with very low levels of extractables, are available on some Corning syringe filters.

Nylon membranes are naturally hydrophilic and are recommended for applications requiring very low extractables since they do not contain any wetting agents, detergents, or surfactants. Their greater chemical resistance makes them better for filtering more aggressive solutions, such as alcohols and DMSO. However, like cellulose nitrate membranes, they may bind greater amounts of proteins and other macromolecules than do the cellulose acetate or PES membranes.

Table 1. Selecting the Pore Size

Application	Pore Size (µm)	Membrane Availability
Removing mycoplasma from solutions	0.1	Only PES
Sterilization of aqueous solutions	0.2 to 0.22	All membranes except PTFE
Ultracleaning of solvents (HPLC)	0.2 to 0.22	RC, Nylon, PTFE
Clarification of aqueous solutions	0.45	All membranes except PTFE
Clarification of solvents (HPLC)	0.45	RC, Nylon, PTFE
Course particle removal	0.8	SFCA

PES = polyethersulfone, SFCA = surfactant-free cellulose acetate, PTFE = polytetrafluorethylene, RC = regenerated cellulose.

Cellulose nitrate (CN) membranes are recommended for filtering solutions where protein binding is not a concern. They are recommended for use in general laboratory applications such as buffer filtration. Corning's cellulose nitrate membranes are Triton X-100-free and noncytotoxic.

Regenerated cellulose (RC) membranes are hydrophilic and have very good chemical resistance to solvents, including DMSO. They are used to ultraclean and de-gas solvents and mobile phases used in HPLC applications.

Polytetrafluorethylene (PTFE) membranes are naturally and permanently hydrophobic. They are ideal for filtering gases, including humidified air. The extreme chemical resistance of PTFE membranes makes them very useful for filtering solvents or other aggressive chemicals for which other membranes are unsuitable. Because of their hydrophobicity, PTFE membranes must be pre-wetted with a solvent, such as ethanol, before aqueous solutions can be filtered.

Glass fiber filters are used as a depth filter for prefiltration of solutions. They have very high particle loading capacity and are ideal for prefiltering dirty solutions and difficult to filter biological fluids such as sera.

Corning® Filter Housing Materials

The filter housing materials, as well as the filter membrane must be compatible with the solutions being filtered.

Polystyrene (PS) is used in the filter funnels and storage bottles for all of the Corning® plastic vacuum filters. This plastic polymer should only be used in filtering and storing nonaggressive aqueous solutions and biological fluids. Refer to Table 3 for more chemical compatibility information.

Acrylic copolymer (AC) is used in some of the Corning syringe filter housings. This plastic should only be used in filtering nonaggressive aqueous solutions and biological fluids. Refer to Table 3 for more chemical compatibility information.

Polypropylene (PP) is used in some of the syringe and disc filter housings. This plastic polymer has very good resistance to many solvents; refer to Table 3 for more chemical compatibility information.

PYREX® and PYREXPLUS® glass is very resistant to virtually all laboratory solvents. However, it can be attacked by hydrofluoric or hot phosphoric acid etched by hot alkali. The coating of PYREXPLUS labware is designed to resist leakage resulting

Table 2. Characteristics of Corning Filter Membranes

Membrane Material	Polyethersulfone	Cellulose Acetate	Nylon	Cellulose Nitrate	Regenerated Cellulose	Polytetrafluorethylene (PTFE)
Flow rates for Medium with 10% Serum	Best	Very good	Poor	Good	Not applicable	Not applicable
Wetting Agents	No	Yes	No, naturally hydrophilic	Yes	Yes	Does not wet
Protein Binding	Very low	Very Low	Low to moderate	Very high	Low	Not applicable
DNA Binding	Very low	Very low	Very high	High	Low	Not applicable
Chemical Resistance	Low	Low	Moderate to high	Low	Very high	Very high

Table 3. Chemical Resistance of Filter Membranes and Housing Materials

This information has been developed from a combination of laboratory tests, technical publications, or material suppliers. It is believed to be reliable. Due to conditions outside of Corning's control, such as variability in temperatures, concentrations, duration of exposure, and storage conditions, no warranty is given or is to be implied with respect to this information.

Chemical Class	Membrane Material						Housing Material			
	CN	CA	NY	PES	RC	PTFE	PS	PP	AC	PYR
Weak acids	2	2	2	3	1	1	1	1	2	1
Strong acids	3	2	3	3	3	1	2	1	3	2
Alcohols	3	1	1	1	1	1	2	1	2	1
Aldehydes	2	3	2	3	2	1	3	1	3	1
Aliphatic amines	3	3	1	1	1	1	3	1	3	1
Aromatic amines	3	3	2	3	1	1	3	1	3	1
Bases	3	3	2	3	2	1	1	1	2	2
Esters	3	3	1	3	1	1	3	2	2	1
Hydrocarbons	2	2	2	3	1	1	3	2	2	1
Ketones	3	3	2	3	1	1	3	2	3	1

1 = recommended, 2 = may be suitable for some applications, a trial run is recommended, 3 = not recommended.
CN = cellulose nitrate, CA = cellulose acetate, NY = nylon, PES = polyethersulfone, RC = regenerated cellulose, PTFE = polytetrafluorethylene, PS = polystyrene, PP = polypropylene, AC = acrylic copolymer, PYR = PYREX glass.


Filtration systems with bottles


Bottle top filters


Centrifuge tube top filters

from a brief chemical exposure that might occur if the vessel is broken. Prolonged and/or repeated chemical exposure of the coating to aldehydes, ketones, chlorinated solvents, and concentrated acids should be avoided.

Chemical Compatibility of Corning Filters

The mechanical strength, color, appearance, and dimensional stability of Corning® filters are affected to varying degrees by the chemicals with which they come into contact. Specific operating conditions, especially temperature and length of exposure, will also affect their chemical resistance. Table 3 provides a general guideline for the chemical resistance of Corning filter membranes and housings.

Step 3: Select the correct membrane area to optimize flow rate and throughput.

The third step is selecting a filter that will have enough volume capacity or throughput to process your entire sample quickly and efficiently. This is primarily determined by the effective surface area of the membrane. Table 4 shows the relationship between filter design, effective filtration surface area, and expected throughput volumes. The lower values are typical of viscous or particle-laden solutions; the higher values are typical of buffers or serum-free medium.

Step 4: Choose the best filter design for your application.

Corning offers three basic filter types: positive pressure-driven syringe and disc filters and vacuum-driven filters. The vacuum-driven filters offer several different designs and styles in both reusable and disposable plastic products.

Disposable Plastic Vacuum Filters

These sterile filters are available in three styles: complete filter/storage systems, bottle top filters, and centrifuge tube top filters. Angled hose connector simplifies vacuum line attachment.

Corning filter/storage systems consist of a polystyrene filter funnel joined by an adapter ring to a removable polystyrene storage bottle with a separate sterile polyethylene cap. Receiver bottles feature easy grip sides for improved handling. Additional Corning polystyrene receiver/storage bottles can be ordered separately to increase throughput. Filters are available with cellulose acetate, cellulose nitrate, nylon, or polyethersulfone membranes.

Corning bottle top filters have the same polystyrene filter funnel designs and capacities as the filter systems, but the adapter ring is designed for threading onto a glass or plastic bottle supplied by the user. Select either the 33 mm thread design for standard narrow glass mouth media bottles or the 45 mm design for glass Storage Bottles with GL 45 threads. See Safety Precautions section (below) for recommendations on using these products with glass bottles. Filters are available with cellulose acetate, nylon, or polyethersulfone membranes.

150 mL centrifuge tube top filters feature a 150 mL polystyrene filter funnel with an 18 cm^2 cellulose acetate membrane attached to a 50 mL polypropylene centrifuge tube to minimize unnecessary transfers by filtering directly into centrifuge tube. Filters are available with cellulose acetate membranes.

Disposable Syringe/Disc Filters

The smaller **Corning syringe filters** (4, 15, 25, 26, and 28 mm diameter) are used with syringes which serves as both the fluid reservoir and the pressure source. They are 100% integrity tested. The HPLC certified nonsterile syringe filters are available with nylon, regenerated cellulose or polytetrafluorethylene (PTFE) membranes in polypropylene housing for extra chemical resistance. The sterile tissue culture tested syringe filters are available in PES, regenerated cellulose (ideal for use with DMSO-containing solutions) or surfactant-free cellulose acetate membranes in either polypropylene or acrylic copolymer housings.

Table 4. Typical Expected Throughput Volumes

Filter Design and Dimensions	Effective Filter Area (cm^2)	Expected Throughput (mL)*
4 mm diameter syringe/disc	0.07	0.05 - 3
15 mm diameter syringe/disc	1.7	3 - 15
25 mm diameter syringe/disc	4.8	10 - 50
26 mm diameter syringe/disc	5.3	10 - 50
28 mm diameter syringe/disc	6.2	10 - 50
50 mm diameter disc	19.6	100 - 500
150 mL filter funnel (42 x 42 mm)	13.6	100 - 500
250 mL filter funnel (49.5 x 49.5 mm)	19.6	200 - 750
500 mL filter funnel (63 x 63 mm)	33.2	300 - 1,500
1000 mL filter funnel (79 x 79 mm)	54.5	500 - 3,000

*These values assume an aqueous solution and a 0.2 µm membrane. Solutions containing sera or other proteinaceous materials will be at the lower end of the range. Use of pre-filters with filter funnels may extend the throughput 50% to 100% above the values shown.

The larger 50 mm diameter disc filter has a PTFE membrane and polypropylene housing with hose barb connectors. This product is ideal for filtering aggressive solvents or gases and applications requiring sterile venting of gases. Because they have a hydrophobic (will not pass aqueous solutions) membrane, they are also ideal for protecting vacuum lines and pumps.

Safety Precautions

Corning® filter units are intended for use by persons knowledgeable in safe laboratory practices. Safety is one of the most critical concerns of any lab. Due to variations in conditions, Corning cannot guarantee any glassware or plasticware against breakage under vacuum or pressure. Failure can result from surface damage, improper pressure or temperature, or use with incompatible chemicals. Adequate precautions should always be taken to protect personnel doing such work. To help improve lab safety, Corning has compiled these suggestions concerning the safe use of filtration products:

- Use appropriate personal protective equipment for the application.
- Use of vacuum-driven filters on glass or plastic bottles may cause personal injury if they implode during use. Eye protection is strongly recommended whenever glass or plastic vessels are used under partial vacuum negative pressure to guard against these injuries. Only bottles specifically designed for these applications should be used.
- Always use cylindrical bottles.
- Never use a 45 mm threaded bottle top filter on a PYREX® or PYREXPLUS® media bottle larger than 2 liter capacity.
- Never use a square bottle for vacuum applications.
- Never use a 33 mm threaded bottle top filter on a glass media bottle that is larger than 500 mL.

4, 15, and 25 to 28 mm syringe filters

50 mm syringe filters

- Never use plastic roller bottles as substitute receiver bottles for vacuum filtration.
- Do not use a bottle for vacuum applications if it is not designed to withstand a vacuum; if the bottle is scratched, chipped or cracked; if the bottle is clamped in such a way as to induce stress; or if the bottle is being hand held.
- Care must be taken when using syringe filters with small syringes (5 mL or less) as the pressures generated may exceed the 75 psi limit, causing a possible membrane or housing failure. Loss of valuable contents and personal injury may result. If clogging causes slower flow rates, we recommend that you replace filters rather than increase the pressure.

References

1. Brock, T.S. Membrane Filtration: A User's Guide and Reference Manual. Science Tech, Inc. Madison, WI, 381 pp. (1983).
2. Lukaszewicz, R.C. and Fisher, R. Mechanisms of Membrane Filtration for Particulate and Microbial Retention in Critical Applications. Pharmaceutical Technology, Vol. 5 (June 1981).
3. Walsh, R.L. and Coles, M.E. Binding of IgG and Other Proteins to Microfilters. Clinical Chemistry 26(3):496-498 (1981).

Table 5. Corning Filter Designs

Design	Sterile	Filter Diameters (mm)	Available Membrane Materials	Pore Sizes (µm)	Special Features
Syringe Filters	Some	4, 15, 25, 26, 28	RC, PES, SFCA, NY, and PTFE	0.2, 0.45	Ideal for small volume pressure filtration
Disc Filters	Yes	50	PTFE	0.2	Ideal for filtering solvents and gases
Vacuum Filter Storage Systems**	Yes	42, 49.5, 63, 79	PES, CA, CN, and NY	0.1, 0.2, 0.22, and 0.45	Easy grip bottles for storing filtrate
Bottle Top Vacuum Filters**	Yes	42, 63, 79	PES, CA, and NY	0.2, 0.22, and 0.45	2 neck widths to fit most glass bottles
Tube Top Vacuum Filters**	Yes	42	CA	0.22 and 0.45	Minimizes unnecessary transfers by filtering into a 50 mL centrifuge tube
Spin-X® Centrifuge Filters	Some	7.7	CA and NY	0.22 and 0.45	Ideal for purifying DNA from agarose gels
Filtr*EX*™ 96-well and 384-well Filter Plates	Some	6.4, 3.2	PVDF, Glass Fiber, PES, NC, and UF	0.2, 0.45, 1.2, and others	Clear, opaque, or solvent resistant*

*Call for specific details; several custom-made products available.
**Membrane design is square.
RC = regenerated cellulose, PES = polyethersulfone, SFCA = surfactant-free cellulose acetate, NY = nylon, PTFE = polytetrafluorethylene, CA = cellulose acetate, CN = cellulose nitrate, PVDF = polyvinylidene fluoride, NC = nitrocellulose, UF = ultrafiltration.

Selecting the Best Spin-X® UF Concentrator for Your Application

Spin-X UF concentrators are disposable, single use only ultrafiltration devices with polyethersulfone membranes (PES) for the centrifugal concentration and/or purification of biological samples. This guide will help you chose the best Spin-X UF concentrator for your application.

Major Uses for Ultrafiltration

Ultrafiltration is a convective process that uses anisotropic semipermeable membranes to separate macromolecular species and solvents primarily on the basis of size. It is particularly appropriate for the concentration of macromolecules and can also be used to purify molecular species or for solvent exchange (Table 6). Ultrafiltration is a gentle, non-denaturing method that is more efficient and flexible than alternative processes.

Solute Concentration

Ultrafiltration membranes are used to increase the solute concentration of a desired biological species. The filtrate is cleared of macromolecules which are significantly larger than the retentive membrane pores. Microsolute is removed convectively with the solvent.

Solute Desalting or Purification

A solution may be purified from salts, non-aqueous solvents and generally from low molecular weight materials. Multiple solvent exchanges will progressively purify macromolecules from contaminating solutes. Microsolutes are removed most efficiently by adding solvent to the solution being ultrafiltered at a rate equal to the speed of filtration. This is called diafiltration.

Choosing the Right Concentrator

Corning offers Spin-X UF concentrators in three sizes. The information below and Tables 7 and 8 will help you find the best concentrator for your needs.

1. Spin-X UF 500 for 100 to 500 µL Samples

Spin-X UF 500 µL centrifugal filter units offer a simple, one step procedure for sample preparation. They can effectively be used in fixed angle rotors accepting 2.2 mL centrifuge tubes.

The vertical membrane design and thin channel filtration chamber minimizes membrane fouling and provides high speed concentrations, even with particle laden solutions.

2. Spin-X UF 6 for 2 to 6 mL Samples

Spin-X UF 6 mL concentrators have been developed to offer increased volume flexibility and performance. Spin-X UF 6 concentrators can process up to 6 mL in swing bucket or fixed angle rotors accepting standard 15 mL conical bottom tubes. In a single spin, solutions can be concentrated in excess of 100-fold. Samples are typically concentrated in 10 to 30 minutes with macromolecular recoveries in excess of 95%.

Table 6. Typical Ultrafiltration Applications

◗ General purpose laboratory concentration and desalting of proteins, enzymes, cells, biomolecules, antibodies, and immunoglobulins
◗ Removal of labeled amino acids and nucleotides
◗ HPLC sample preparation
◗ Deproteinization of samples
◗ Recovery of biomolecules from cell culture supernatants, lysates

The Spin-X UF 6 features twin vertical membranes for unparalleled filtration speeds and 100x plus concentrations. Remaining volume is easy to read off the printed scale on the side of the concentrator and the modified dead stop pocket further simplifies direct pipet recovery of the final concentrate.

3. Spin-X UF 20 for 5 to 20 mL Samples

Spin-X UF 20 mL centrifugal concentrators have been developed to offer increased volume flexibility and performance. Spin-X UF 20 handles up to 20 mL in swing bucket centrifuges and 14 mL in 25˚ fixed angle rotors accepting 50 mL centrifuge tubes.

Featuring twin vertical membranes for unparalleled filtration speeds the Spin-X UF 20 can achieve 100x plus concentrations. Remaining volume is easy to read off the printed scale on the side of the concentrator and the modified dead stop pocket further simplifies direct pipet recovery of the final concentrate.

Choosing the Best Molecular Weight Cut-off (MWCO) Membrane

Spin-X® UF concentrators use general purpose polyethersulfone membranes that provide excellent performance with most solutions when retentate recovery is of primary importance. Polyethersulfone membranes exhibit no hydrophobic or hydrophilic interactions and are usually preferred for their low fouling characteristics, exceptional flux and broad pH range.

The advanced designs and low adsorption materials that characterize Spin-X UF products offer a unique combination of faster processing speeds and higher recovery of the concentrated sample. Providing that the appropriate device size (Table 7) and membrane cut-off (Table 8) is selected, Spin-X UF products will typically yield recoveries of the concentrated sample in excess of 90% when the starting sample contains over 0.1 mg/mL of the solute of interest (Table 9). Most of the loss is caused by non-specific binding both to the membrane surface and to exposed binding sites on the plastic of the sample container.

Adsorption to the Membrane

Depending on sample characteristics relative to the membrane type used, solute adsorption on the membrane surface is typically 2 to 10 µg/cm^2. This can increase to 20 to 100 µg/cm^2 when the filtrate is of interest and the solute must pass through the whole internal structure of the membrane. Typically, a higher cut-off membrane will bind more than a low molecular weight cut-off membrane.

Adsorption to the Sample Container

Although every effort is made to minimize this phenomenon by the selection of low adsorption materials and tool production to optical standards, some solute will bind to the internal surface of the sample container. While the relative adsorption will be proportionately less important on the sample container than on the membrane, due to the higher total surface area, this can be the major source of yield loss.

Table 7. Technical Properties of Spin-X UF Concentrators

Concentrator	Spin-X UF 500	Spin-X UF 6	Spin-X UF 20
Concentrator Capacity			
Swing Bucket Rotor	Do not use	6 mL	20 mL
Fixed Angle Rotor	500 µL	6 mL	14 mL
Minimum Rotor Angle	40°	25°	25°
Dimensions			
Total Length	50 mm	122 mm	116 mm
Width	11 mm	17 mm	30 mm
Active Membrane Area	0.5 cm^2	2.5 cm^2	6.0 cm^2
Membrane Hold Up Volume	<5 µL	<10 µL	<20 µL
Dead Stop Volume*	5 µL	30 µL	50 µL
Materials of Construction			
Body	PC	PC	PC
Filtrate Vessel	PP	PC	PC
Concentrator Cap	PP	PP	PP
Membrane	PES	PES	PES

*Dead stop volume as designed in molding tool. This volume may vary depending on sample, sample concentration, operation temperature, and centrifuge rotor.
PC = polycarbonate, PP = polypropylene, PES = polyethersulfone.

Table 8. PES Membrane Selection Guide (Recommended MWCO*)

Application	<5,000	10,000	30,000	50,000	100,000
Bacteria					■
Enzymes	■	■			
Growth factors	■	■			
Immunoglobulins			■	■	■
MAB			■	■	■
Peptides	■		■	■	
Virus			■	■	■
Yeast					■

*For highest recovery, select a membrane MWCO which is at least half of the molecular weight of the solute to be retained.

Table 9. Spin-X UF Concentrators Performance Characteristics
(Time in minutes to concentrate up to 30x at 20°C and solute recovery %)

Concentrator	Spin-X UF 500		Spin-X UF 6				Spin-X UF 20			
Rotor	40° Fixed Angle		Swing Bucket		25° Fixed Angle		Swing Bucket		25° Fixed Angle	
Start Volume	500 µL		6 mL		6 mL		20 mL		14 mL	
	Min.	Rec.	Min.	Rec.	Min.	Rec.	Min.	Rec.	Min.	Rec.
BSA 1.0 mg/mL (66,000 MW)										
5,000 MWCO PES	15	96%	20	98%	12	98%	23	99%	29	99%
10,000 MWCO PES	5	96%	13	98%	10	98%	16	98%	17	98%
30,000 MWCO PES	5	96%	12	98%	9	97%	13	98%	15	98%
IgG 0.25 mg/mL (160,000 MW)										
30,000 MWCO PES	10	96%	18	96%	15	95%	27	97%	20	95%
50,000 MWCO PES	10	96%	17	96%	14	95%	27	96%	22	95%
100,000 MWCO PES	10	96%	15	91%	12	91%	25	91%	20	90%

Helpful Hints

Flow Rate

Filtration rate is affected by several parameters, including MWCO, porosity, sample concentration, viscosity, centrifugal force and temperature. Expect significantly longer spin times for starting solutions with over 5% solids. When operating at 4°C, flow rates are approximately 1.5 times slower than at 25°C. Viscous solutions such as 50% glycerin will take up to 5 times longer to concentrate than samples in a predominantly buffer solution.

Pre-rinsing

Membranes fitted to Spin-X® UF concentrators contain trace amounts of glycerin and sodium azide. Should these interfere with analysis, they can be removed by rinsing fill volume of buffer solution or deionized water through the concentrator. Decant filtrate and concentrate before processing sample solution. If you do not want to use the pre-rinsed device immediately, store it in the refrigerator with buffer or water covering the membrane surface. Please do not allow the membrane to dry out.

Sterilization of Polyethersulfone Membranes

Polyethersulfone membranes should not be autoclaved as high temperatures will substantially increase membrane MWCO. To sanitize or sterilize these devices, use a 70% ethanol solution or sterilizing gas mixture.

Optimizing Solute Recovery

When highest solute recoveries are most important, in particular when working with solute quantities in the microgram range, Corning recommends considering the following key points:

- Select the smallest device that suits the sample volume. Additionally, take advantage of the extra speed of Spin-X UF concentrators by refilling a smaller concentrator repeatedly.
- Select the lowest MWCO membrane that suits the application.
- When available, use swing bucket rotors rather than fixed angle rotors. This reduces the surface area of the concentrator that will be exposed to the solution during centrifugation.
- Reduce centrifugal force to approximately half of the maximum recommended (Table 10).
- Avoid over concentration. The smaller the final concentrate volume, the more difficult it is to achieve complete recovery. If feasible, after a first recovery, rinse the device with one or more drops of buffer and then recover again.
- Pretreat the device overnight with a passivation solution, such as 5% SDS, Tween 20, or Triton® X in distilled water. Then, rinse thoroughly before use.

Table 10. Maximum Recommended Centrifugal Force

Concentrator	Spin-X UF 500	Spin-X UF 6	Spin-X UF 20
Maximum Centrifugal Force – Swing Bucket			
5,000 to 50,000 MWCO PES	Do not use	4,000 x g	5,000 x g
>100,000 MWCO PES	Do not use	4,000 x g	3,000 x g
Maximum Centrifugal Force – Fixed Angle			
5,000 to 50,000 MWCO PES	15,000 x g	10,000 x g	8,000 x g
>100,000 MWCO PES	15,000 x g	6,000 x g	6,000 x g

Table 11. Chemical Compatibility*
(2-hour contact time; compatible pH range, pH 1-9)

Acetic Acid (25.0%)	1	Lactic Acid (5.0%)	1
Acetone (10.0%)	3	Mercaptoethanol (10 mL)	1
Acetonitrile (10.0%)	3	Methanol (60%)	2
Ammonium Hydroxide (5.0%)	2	Nitric Acid (10.0%)	1
Ammonium Sulphate (saturated)	1	Phenol (1.0%)	2
Benzene (100%)	3	Phosphate Buffer (1.0M)	1
n-Butanol (70%)	1	Polyethylene Glycol (10%)	1
Chloroform (1.0%)	3	Pyridine (100%)	2
Dimethyl Formamide (10.0%)	2	Sodium Carbonate (20%)	2
Dimethyl Sulfoxide (5.0%)	1	Sodium Deoxycholate (5.0%)	1
Ethanol (70.0%)	1	Sodium Dodecylsulfate (0.1M)	1
Ethyl Acetate (100%)	3	Sodium Hydroxide	3
Formaldehyde (30%)	1	Sodium Hypochlorite (200 ppm)	2
Formic Acid (5.0%)	1	Sodium Nitrate (1.0%)	1
Glycerine (70%)	1	Sulfamic Acid (5.0%)	1
Guanidine HCl (6M)	1	Tetrahydrofuran (5.0%)	3
Hydrocarbons, aromatic	3	Toluene (1.0%)	3
Hydrocarbons, chlorinated	3	Trifluoroacetic Acid (10%)	1
Hydrochloric Acid (1M)	1	Tween 20 (0.1%)	1
Imidazole (500 mM)	1	Triton X-100 (0.1%)	1
Isopropanol (70%)	1	Urea (8M)	1

*1 = acceptable, 2 = questionable, testing advised, 3 = not recommended.

Chemical Compatibility

Spin-X UF concentrators are designed for use with biological fluids and aqueous solutions. For chemical compatibility details, refer to Table 11.

Characteristics of Corning® Plasticware

	Polystyrene (PS)	Polyethylene (High Density)	Polypropylene (PP)	Polycarbonate (PC)	Nylon (NY)	Polytetra-fluorethylene (PTFE)	Polyethylene Terephthalate (PET)
PHYSICAL CHARACTERISTICS							
Basic Properties	Biologically inert, hard, excellent optical qualities	Biologically inert, high chemical resistance	Biologically inert, high chemical resistance, exceptional toughness	Clear, very tough, inert, high temperature resistance	Tough, heat resistant, machinable, high moisture vapor transmission	Biologically and chemically inert, high resistant slippery surface	Biologically inert, hard, tough, excellent optical qualities
Clarity	Clear	Opaque	Translucent	Clear	Opaque	Opaque	Clear
Autoclave Results	Melts	May distort	Withstands several cycles	Withstands one cycle	OK	OK	Melts
Heat Distortion Point	147-175˚F 64-80˚C	250˚F 121˚C	275˚F 135˚C	280-290˚F 138-143˚C	300-356˚F 150-180˚C	250˚F 121˚C	158˚F 70˚C
Burning Rate	Slow	Slow	Slow	Self-extinguishing	Self-extinguishing	None	–
EFFECTS OF LABORATORY REAGENTS							
Weak Acids	None	None	None	None	None	None	None
Strong Acids	Oxidizing acids attack	Oxidizing acids attack	Oxidizing acids attack	May be attacked	Attacked	None	Oxidizing acids attack
Weak Alkalies	None	None	None	None	None	None	None
Strong Alkalies	None	None	None	Slowly attacked	None	None	Attacked
Organic Solvents	Soluble in aromatic chlorinated hydrocarbons	Resistant below 80°C	Resistant below 80°C	Soluble in chlorinated hydrocarbons; partly soluble in aromatics	Resistant	Resistant	Soluble in aromatic or chlorinated hydrocarbons
GAS PERMEABILITY OF THIN WALL PRODUCTS*							
O_2	Low	High	High	Very low	Very low	–	Very low
N_2	Very low	Low	Low	Very low	Very low	–	Very low
CO_2	High	Very high	Very high	Low	–	–	Low

*Obtained from a table which lists gas permeability in CC/100 sq. inches per 24 hr/mil.
Portions of this table courtesy of Modern Plastics Encyclopedia. Most data are from tests by A.S.T.M. methods. Tables show averages or ranges. Many properties vary with manufacturer, formulation, testing laboratory, and the specific operating conditions.

Chemical Compatibility of Corning® Plasticware

	PS	PP	PVC	CA	PC	CN	NY	MCE	PTFE	PET
Acids										
Hydrochloric acid (25%)	G	G	G	N	R	R	N	O	R	R
Hydrochloric acid (concentrated)	F	G	F	N	R	N	N	N	R	O
Nitric acid (concentrated)	P	P	P	N	R	N	N	N	O	N
Nitric acid (25%)	P	G	F	N	R	L	N	O	R	R
Alcohols										
Butanol	G	G	G	R	R	R	R	R	R	R
Ethanol	G	G	G	R	R	N	R	O	R	R
Methanol	G	G	G	R	R	N	R	O	R	R
Amines										
Aniline	G	G	P	N	N	R	R	N	R	O
Dimethylformamide	P	G	F	N	N	N	R	N	R	N
Bases										
Ammonium hydroxide (25%)	F	G	G	R	N	R	R	O	N	O
Ammonium hydroxide (1N)	F	G	G	N	N	R	R	O	N	N
Sodium hydroxide	G	G	G	N	N	N	R	N	R	N
Hydrocarbons										
Hexane	P	G	F	R	R	R	R	R	R	R
Toluene	P	G	P	R	O	R	R	R	R	N
Xylene	P	F	P	R	R	R	R	R	R	N
Dioxane	P	G	P	N	N	N	R	N	R	R
Dimethylsulfoxide (DMSO)	P	G	P	N	N	N	R	N	R	O*
Halogenated Hydrocarbons										
Chloroform	P	N	P	N	N	R	R	N	R	N
Methylene chloride	P	F	P	N	N	R	R	N	R	N
Ketones										
Acetone	P	G	P	N	O	N	R	N	R	N
Methyl ethyl diketone	P	G	P	N	O	N	R	O	R	R

*Can be used with aqueous solutions containing up to 20% DMSO.
R = Recommended, L = Limited resistance, N = Not recommended, O = Testing advised, F = Fair, G = Good, P = Poor.
PP = polypropylene, PVC = polyvinyl chloride, CA = cellulose acetate, PC = polycarbonate, PTFE = polytetrafluoroethylene PS = Polystyrene, CN = cellulose nitrate, NY = Nylon, MCE = mixed cellulose esters, PET = polyethylene terephthalate.

Characteristics of Corning Centrifuge Tubes

The following information is provided to serve as a general guideline for determining suitability of Corning centrifuge tubes for your applications. In addition, Corning recommends following the procedures outlined by the centrifuge manufacturer, as well as conducting a trial run to determine proper conditions before beginning any critical applications.

Corning centrifuge tubes are tested for leakage. They should not break or leak if used in a properly balanced rotor with suitable carriers, holders, and adapters that fully support the tubes when run in accordance with the guidelines in this section. These tubes are intended for one-time use only; reuse is not recommended as breakage or leakage may occur.

The recommended working temperature range for Corning centrifuge tubes is 0°C to 40°C. The suitability of these tubes for storage below 0°C depends on both the solution and the storage conditions. In general, the polypropylene and PET tubes are more resistant to stress at low temperatures than polystyrene. It is strongly recommended that a trial run be performed under actual conditions to test the suitability of the tubes for frozen storage.

Suggestions for Safe Centrifugation

- ***Caution***: When centrifuging pathogenic organisms, clinical specimens known or suspected of being infectious, or any other potentially biohazardous materials, approved safety containment systems should be used. Contact your centrifuge manufacturer for appropriate accessories or recommendations.
- Read protocols and instruction manuals carefully. Do not confuse speed or revolutions per minute (RPM) with relative centrifugal force (RCF). Instructions for centrifuging a sample at a given RPM and time are incomplete unless the rotor or radius is specified. Protocols should always state the time and RCF value for centrifuging a sample.

- Proper balancing and distribution of the load in a centrifuge is critical for optimum performance and to prevent damage to the tubes or centrifuge. Opposing buckets or loads should always be balanced within the range specified by the manufacturer. Tubes should always be distributed in the buckets with respect to the center of rotation as well as the pivotal axis of the bucket. Failure to do this may prevent the bucket from achieving a horizontal position during the centrifugation run. Uneven separations or tube failure may result.

These centrifuge tubes are intended for use by persons knowledgeable in safe laboratory practices. Failure can result from surface damage, exceeding the specified RCF values, using unsuitable support systems, improper temperatures, or incompatible chemicals.

The RCF ratings for Corning® disposable centrifuge tubes have been established at room temperature using tubes filled to nominal capacity with water and spun in a horizontal rotor centrifuge for 5 minutes. The centrifuge must be equipped with the recommended carriers, adapters, and cushions that fully support the tubes. If an angle head rotor is used or proper support is not provided, RCF values will be lower. Use of liquid other than water may also lower RCF values. Please consult your centrifuge specifications and the nomogram table (page G34) to determine speeds at which maximum RCF is achieved.

Chemical Compatibility of Disposable Plastic Centrifuge Tubes

The mechanical strength, flexibility, color, weight, and dimensional stability of all plastic centrifuge tubes are affected to varying degrees by the chemicals with which they come in contact. Specific operating conditions, especially temperature, RCF, rotor type, carrier design, and run length will also affect tube performance.

Physical Properties of Disposable Plastic Centrifuge Tubes

	Clear Polypropylene	New Polyethylene Terephthalate
Recommended Working Temperature*	0-40°C	0-40°C
Heat Distortion Point	121°C	70°C
Flexibility	Moderate	Rigid
Transparency	Clear	Clear
Maximum RCF:		
15 mL Tube	12,000 x g	3,600 x g
50 mL Tube	15,500 x g	3,600 x g
250 mL Tube	6,000 x g	–
500 mL Tube	6,000 x g	–

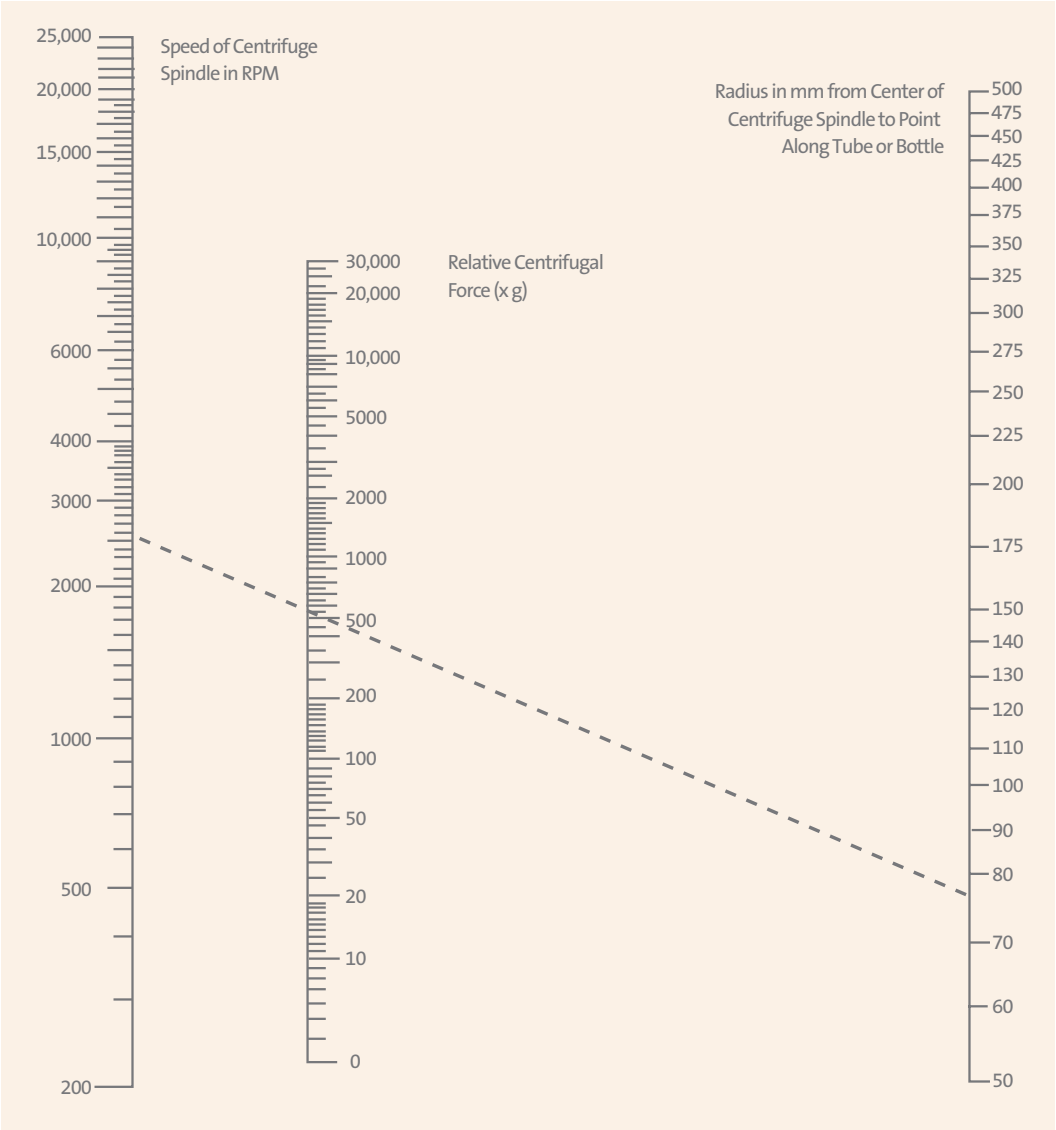
*At room temperature for 24 hours.

Chemical Resistance of Disposable Plastic Centrifuge Tubes*

Chemical Class	Polyethylene Terephthalate	Polypropylene	Polyethylene Caps
Acids (weak)	1	1	1
Acids	3	1	1
Alcohols	1	1	1
Aldehydes	3[a]	2[a]	1
Bases	3	1	1
Esters	2	2	2
Hydrocarbons:			
Aliphatic	1	2	3
Aromatic	3	3[b]	3
Halogenated	3	3	3
Ketones	2	2[c]	2

*At room temperature for 24 hours.
1 = Recommended, 2 = Suitable for most applications. However, a trial run under specific operating conditions is recommended, 3 = Not recommended.
[a]Formaldehyde, rated 1.
[b]Phenol, rated 1.
[c]Acetone, rated 1.

Nomogram for Computing Relative Centrifugal Force



All data subject to normal manufacturing variations.

To calculate the RCF value at any point along the tube or bottle, measure the radius, in millimeters (mm), from the center of the centrifuge spindle to the particular point. Draw a line from the radius value on the right hand column to the appropriate centrifuge speed on the left-hand column.

The RCF value is the point where the line crosses the center column. The nomogram is based on the formula:

$RCF = (11.17 \times 10^{-7}) RN^2$

where:

R = Radius in mm from centrifuge spindle to point in tube bottom

N = Speed of spindle in RPM 125

Note: Tubes should not be spun in excess of 1500 x g.

Media, Sera, Reagents, and Flexible Packaging

Table of Contents

Classical Media

Growth Promotion and Cytotoxicity

Corning® classical media products undergo a variety of tests to determine functionality and toxicity using growth-promotion analysis. Product performance is measured by harvest-to-plant ratios or fold increase according to predetermined specifications.

Physiochemical Properties

Liquid and powder classical media products are tested to determine pH and osmolality. Classical media powders are also tested for residual moisture. The pH and osmolality tests are performed according to specific procedures in which all equipment is calibrated using standards traceable to the National Institute of Standards and Technology.

Biological Tests

Quality release testing of Corning liquid classical media products assures low levels of endotoxin, mycoplasma, and an absence of contamination.

Endotoxin: Classical media products are tested for bacterial endotoxin using the Limulus Amoebocyte Lysate (LAL) chromogenic assay. For release, each lot of standard liquid classical media must have an endotoxin level of <0.25 EU/mL. Classical media powder products must have an endotoxin level of <0.25 EU/mL when reconstituted to formula weight with low endotoxin water.

Sterility: All Corning liquid classical media products are tested for sterility.

Mycoplasma: Liquid classical media products are tested for mycoplasma using a large-volume method.

DMEM (Dulbecco's Modification of Eagle's Medium)

														Powder			
Contains	10-013	10-014	10-017	10-027	10-101	10-102	15-013	15-017	15-018	17-204	17-205	17-206	17-207	50-003	50-013	90-013	90-113
L-glutamine	■	■	■	■										■	■		
Sodium pyruvate	■	■			■		■		■	■	■	■		■			
Phenol red	■	■	■	■	■	■	■	■	■	■		■	■	■	■		
L-cystine/L-methionine	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■
Phosphate	■	■	■	■			■	■	■	■	■		■	■	■	■	■
HEPES				■					■								
High glucose	■		■	■	■	■	■	■	■	■	■	■		■	■	■	
Sodium bicarbonate	■	■	■	■	■	■	■	■	■	■	■	■	■				
Corning® glutagro™					■	■											
Pyridoxine HCl														■	■	■	■

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-013-CV	[+] 4.5 g/L Glucose, L-glutamine, sodium pyruvate	2°C to 8°C	18 m	500 mL	6
10-013-CM	[+] 4.5 g/L Glucose, L-glutamine, sodium pyruvate	2°C to 8°C	18 m	1L	6
10-013-LX	[+] 4.5 g/L Glucose, L-glutamine, sodium pyruvate	2°C to 8°C	18 m	10L	1
10-013-LB	[+] 4.5 g/L Glucose, L-glutamine, sodium pyruvate	2°C to 8°C	18 m	20L	1
10-014-CV	[+] 1.0 g/L Glucose, sodium pyruvate, L-glutamine	2°C to 8°C	18 m	500 mL	6
10-014-CM	[+] 1.0 g/L Glucose, sodium pyruvate, L-glutamine	2°C to 8°C	18 m	1L	6
10-017-CV	[+] 4.5 g/L Glucose, L-glutamine; [-] sodium pyruvate	2°C to 8°C	18 m	500 mL	6
10-017-CM	[+] 4.5 g/L Glucose, L-glutamine; [-] sodium pyruvate	2°C to 8°C	18 m	1L	6
10-027-CV	[+] 25 mM HEPES, 4.5 g/L glucose, L-glutamine; [-] sodium pyruvate	2°C to 8°C	18 m	500 mL	6
10-101-CV	[+] Corning glutagro™ supplement, 4.5 g/L glucose, sodium pyruvate, phenol red	2°C to 8°C	12 m	500 mL	6
10-102-CV	[+] Corning glutagro supplement, 4.5 g/L glucose, phenol red; [-] sodium pyruvate	2°C to 8°C	12 m	500 mL	6
15-013-CV	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine	2°C to 8°C	18 m	500 mL	6
15-013-CM	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine	2°C to 8°C	18 m	1L	6
15-013-LX	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine	2°C to 8°C	18 m	10L	1
15-013-LB	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine	2°C to 8°C	18 m	20L	1
15-017-CV	[+] 4.5 g/L Glucose; [-] L-glutamine, sodium pyruvate	2°C to 8°C	18 m	500 mL	6
15-017-CM	[+] 4.5 g/L Glucose; [-] L-glutamine, sodium pyruvate	2°C to 8°C	18 m	1L	6
15-018-CV	[+] 4.5 g/L Glucose, sodium pyruvate, 25 mM HEPES; [-] L-glutamine	2°C to 8°C	18 m	500 mL	6
15-018-CM	[+] 4.5 g/L Glucose, sodium pyruvate, 25 mM HEPES; [-] L-glutamine	2°C to 8°C	18 m	1L	6
17-204-CI	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine, L-methionine, L-cystine	2°C to 8°C	18 m	100 mL	6
17-205-CV	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine, phenol red	2°C to 8°C	18 m	100 mL	6
17-206-CI	[+] 4.5 g/L Glucose, sodium pyruvate; [-] L-glutamine, phosphate	2°C to 8°C	18 m	100 mL	6
17-207-CV	[-] Glucose, L-glutamine, sodium pyruvate	2°C to 8°C	18 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-003-PB	[+] 4.5 g/L Glucose, L-glutamine, sodium pyruvate; [-] sodium bicarbonate	2°C to 8°C	36 m	10L	1
50-003-PC	[+] 4.5 g/L Glucose, L-glutamine, sodium pyruvate; [-] sodium bicarbonate	2°C to 8°C	36 m	50L	1
50-013-PB	[+] 4.5 g/L Glucose, L-glutamine; [-] sodium pyruvate, sodium bicarbonate	2°C to 8°C	36 m	10L	1
50-013-PC	[+] 4.5 g/L Glucose, L-glutamine; [-] sodium pyruvate, sodium bicarbonate	2°C to 8°C	36 m	50L	1
90-013-PB	[+] 4.5 g/L Glucose; [-] sodium bicarbonate, L-glutamine, sodium pyruvate, phenol red	2°C to 8°C	36 m	10L	1
90-113-PB	[-] Sodium bicarbonate, glucose, L-glutamine, sodium pyruvate, phenol red	2°C to 8°C	36 m	10L	1

*Powder media volume indicated is the reconstituted volume.

DMEM/Ham's F-12 50/50 Mix

						Powder	
Contains	10-090	10-092	10-103	15-090	16-405	90-090	90-091
L-glutamine	■	■			■		
Sodium pyruvate	■	■	■	■	■	■	■
Phenol red	■	■	■	■			■
HEPES		■	■				
Sodium bicarbonate	■	■	■	■	■		
Corning® glutagro™			■				

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-090-CV	[+] L-glutamine	2°C to 8°C	12 m	500 mL	6
10-090-CM	[+] L-glutamine	2°C to 8°C	12 m	1L	6
10-092-CV	[+] L-glutamine, 15 mM HEPES	2°C to 8°C	12 m	500 mL	6
10-092-CM	[+] L-glutamine, 15 mM HEPES	2°C to 8°C	12 m	1L	6
16-405-CV	[+] L-glutamine; [-] phenol red	2°C to 8°C	12 m	500 mL	6
15-090-CV	[+] L-glutamine	2°C to 8°C	18 m	500 mL	6
15-090-CM	[-] L-glutamine	2°C to 8°C	18 m	1L	6
10-103-CV	[+] Corning glutagro™	2°C to 8°C	36 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
90-090-PB	[-] Sodium bicarbonate, L-glutamine, phenol red	2°C to 8°C	36 m	10L	6
90-091-PB	[+] L-glutamine	2°C to 8°C	36 m	10L	6

F-12K Nutrient Mixture (Kaighn's Modification), 1x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-025-CV	[+] L-glutamine	2°C to 8°C	12 m	500 mL	6

Glasgow's MEM

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-004-PB	[+] L-glutamine; [-] sodium bicarbonate, tryptose phosphate broth	2°C to 8°C	36 m	10L	1

Ham's F-10 Medium

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-070-CV	[+] L-glutamine	2°C to 8°C	12 m	500 mL	6

Ham's F-12 Medium

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-080-CV	[+] L-glutamine	2°C to 8°C	12 m	500 mL	6
10-080-CM	[+] L-glutamine	2°C to 8°C	12 m	1L	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-040-PB	[+] L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	10L	1

*Powder media volume indicated is the reconstituted volume

Improved MEM (Richter's Modification), 1x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-024-CV	[+] L-glutamine	2°C to 8°C	12 m	500 mL	6
10-026-CV	[+] L-glutamine; [-] phenol red	2°C to 8°C	12 m	500 mL	6

IMDM (Iscove's Modification of DMEM), 1x

Contains	10-016	15-016
L-glutamine	■	
Sodium pyruvate	■	■
Phenol red	■	■
Pyridoxine HCl	■	■
Sodium bicarbonate	■	■

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-016-CV	[+] L-glutamine and 25 mM HEPES; [-] α-thioglycerol, β-mercaptoethanol	2°C to 8°C	12 m	500 mL	6
10-016-CM	[+] L-glutamine and 25 mM HEPES; [-] α-thioglycerol, β-mercaptoethanol	2°C to 8°C	12 m	1L	6
15-016-CV	[+] 25 mM HEPES; [-] α-thioglycerol, β-mercaptoethanol, L-glutamine	2°C to 8°C	12 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-016-PB	[+] 25 mM HEPES; [-] α-thioglycerol, β-mercaptoethanol, sodium bicarbonate	2°C to 8°C	36 m	10L	1

Leibovitz's L-15 (Modification), 1x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-045-CV	[+] L-glutamine	2°C to 8°C	12 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-045-PB	[+] L-glutamine	2°C to 8°C	12 m	10L	1

MCDB 131, 1x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
15-100-CV	[-] L-glutamine	2°C to 8°C	12 m	500 mL	6

McCoy's 5A (Iwaketa and Grace Modification), 1x

Contains	10-050	10-051
L-glutamine	■	■
Phenol red	■	■
HEPES		■
Sodium bicarbonate	■	■

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-050-CV	[+] L-glutamine	2°C to 8°C	18 m	500 mL	6
10-051-CI	[+] L-glutamine, 25 mM HEPES	2°C to 8°C	18 m	100 mL	6

Medium 199 (Modification)

		Powder	
Contains	**10-060-CV**	**50-050**	**90-050**
L-glutamine	■	■	
Phenol red		■	
Earle's salts	■	■	■
Hank's salts			
Sodium bicarbonate			

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-060-CV	[+] Earle's salts, L-glutamine	2°C to 8°C	18 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-050-PB	[+] Earle's salts, L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	10L	1
90-050-PB	[+] Earle's salts; [-] sodium bicarbonate, L-glutamine, phenol red	2°C to 8°C	36 m	10L	1

MEM (Minimum Essential Medium)

						Powder				
Contains	**10-009**	**10-010**	**15-010**	**15-015**	**17-305**	**50-010**	**50-011**	**50-019**	**51-010**	**90-009**
L-glutamine	■	■				■		■		
Phenol red		■	■	■		■	■		■	
L-Methionine		■	■	■	■					
Calcium and magnesium		■	■		■					
Sodium bicarbonate	■	■	■	■	■					
Non-essential amino acids	■									
Sodium pyruvate	■									
Earle's salts						■	■		■	■
Hank's salts								■		

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-009-CV	[+] Sodium bicarbonate, NEAA, L-glutamine, sodium pyruvate	2°C to 8°C	18 m	500 mL	6
10-010-CV	[+] Earle's salts, L-glutamine	2°C to 8°C	18 m	500 mL	6
10-010-CM	[+] Earle's salts, L-glutamine	2°C to 8°C	18 m	1L	6
15-010-CV	[+] Earle's salts; [-] L-glutamine	2°C to 8°C	18 m	500 mL	6
15-010-CM	[+] Earle's salts; [-] L-glutamine	2°C to 8°C	18 m	1L	6
15-015-CV	[-] L-glutamine, calcium, magnesium	2°C to 8°C	18 m	500 mL	6
17-305-CV	[+] Earle's salts; [-] L-glutamine, phenol red	2°C to 8°C	18 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-010-PB	[+] Earle's salts, L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	10L	1
50-010-PC	[+] Earle's salts, L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	50L	1
50-011-PB	[+] Earle's salts, L-glutamine. NEAA; [-] sodium bicarbonate	2°C to 8°C	36 m	10L	1
50-011-PC	[+] Earle's salts, L-glutamine, NEAA; [-] sodium bicarbonate	2°C to 8°C	36 m	50L	1
51-010-PC	[+] Earle's salts; [-] sodium bicarbonate, L-glutamine	2°C to 8°C	36 m	50L	1
50-019-PB	[+] Hank's salts, L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	50L	1
90-009-PB	[+] Earle's salts; [-] L-glutamine, phenol red, sodium bicarbonate	2°C to 8°C	36 m	10L	1

*Powder media volume indicated is the reconstituted volume

CMRL 1066

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
15-110-CV	[-] L-glutamine	2°C to 8°C	36 m	500 mL	6

*Powder media volume indicated is the reconstituted volume

MEM (Minimum Essential Medium) Alpha Medium

			Powder
Contains	**10-022**	**15-012**	**50-012**
L-glutamine	■		■
Phenol red	■	■	■
Nucleosides	■		
Sodium pyruvate	■	■	■
Sodium bicarbonate	■	■	

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-022-CV	[+] Earle's salts, ribonucleosides, deoxyribonucleosides, L-glutamine	2°C to 8°C	12 m	500 mL	6
15-012-CV	[+] Earle's salts; [-] ribonucleosides, deoxyribonucleosides, L-glutamine	2°C to 8°C	18 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-012-PC	[+] Earle's salts, L-glutamine ; [-] ribonucleosides, deoxyribonucleosides, sodium bicarbonate	2°C to 8°C	36 m	50L	1

RPMI 1640

									Powder	
Contains	**10-040**	**10-041**	**10-043**	**10-104**	**15-040**	**15-041**	**17-104**	**17-105**	**50-020**	**90-022**
L-glutamine	■	■	■						■	
Phenol red	■	■	■	■	■	■	■		■	
HEPES		■				■				
L-cystine/L-methionine	■	■	■	■	■	■		■	■	
Sodium bicarbonate	■	■	■	■	■	■	■	■		
Corning® glutagro™				■						

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
10-040-CV	[+] L-glutamine	2°C to 8°C	18 m	500 mL	6
10-040-CM	[+] L-glutamine	2°C to 8°C	18 m	1L	6
10-040-LX	[+] L-glutamine	2°C to 8°C	18 m	10L	6
10-040-LB	[+] L-glutamine	2°C to 8°C	18 m	20L	6
10-041-CV	[+] L-glutamine and 25 mM HEPES	2°C to 8°C	18 m	500 mL	6
10-041-CM	[+] L-glutamine and 25 mM HEPES	2°C to 8°C	18 m	1L	6
10-043-CV	[+] L-glutamine; [-] glucose	2°C to 8°C	18 m	500 mL	6
10-104-CV	[+] Corning glutagro™, phenol red	2°C to 8°C	18 m	500 mL	6
15-040-CV	[-] L-glutamine	2°C to 8°C	18 m	500 mL	6
15-040-CM	[-] L-glutamine	2°C to 8°C	18 m	1L	6
15-040-LB	[-] L-glutamine	2°C to 8°C	18 m	20L	1
15-041-CV	[+] 25 mM HEPES; [-] L-glutamine	2°C to 8°C	18 m	500 mL	6
17-104-CI	[-] L-glutamine, L-methionine, L-cystine	2°C to 8°C	18 m	100 mL	6
17-105-CV	[-] L-glutamine, phenol red	2°C to 8°C	18 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
50-020-PB	[+] L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	10L	1
50-020-PC	[+] L-glutamine; [-] sodium bicarbonate	2°C to 8°C	36 m	50L	1
90-022-PB	[-] L-glutamine, phenol red, sodium bicarbonate	2°C to 8°C	36 m	10L	1

*Powder media volume indicated is the reconstituted volume.

INSECT MEDIA

Grace's Insect Basal Medium (Vaughn Modification)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
13-200-CV	[+] L-glutamine; [-] insect hemolymph	2 to 8°C	12 m	500 mL	6

Hink's TNM-FH Medium (Modification) (Supplemented Grace's Medium)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
13-100-CV	[+] L-glutamine, lactalbumin hydrolysate, UF yeast extract; [-] insect hemolymph	2 to 8°C	12 m	500 mL	6

Buffered Salt Solutions

Buffered salt solutions are made to a physiological pH and salt concentration. They are used alone or in combination with other agents for washing tissues and cells. Buffered salt solutions most commonly include sodium, potassium, calcium, magnesium, and chloride. They provide the cells with water and inorganic ions, while maintaining a physiological pH and osmotic pressure.

Although there have been many modifications to the original formulas to produce fully defined media, salt solutions still play an important role in tissue culture. A salt solution's basic functions, to maintain the pH and osmotic balance in the medium and to provide the cells with water and essential inorganic ions, are as valuable today as when it was first developed a century ago.

DPBS (Dulbecco's Phosphate Buffered Saline)

					Powder
Contains	**20-030**	**20-031**	**21-030**	**21-031**	**55-031**
Calcium	■		■		
Magnesium	■		■		
Potassium chloride	■	■	■	■	■

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
20-030-CV	[+] Calcium and magnesium, 10x	2°C to 30°C	18 m	500 mL	6
20-031-CV	[-] Calcium and magnesium, 10x	2°C to 30°C	18 m	500 mL	6
21-030-CV	[+] Calcium and magnesium, 1x	2°C to 30°C	36 m	500 mL	6
21-030-CM	[+] Calcium and magnesium, 1x	2°C to 30°C	36 m	1L	6
21-031-CV	[-] Calcium and magnesium, 1x	2°C to 30°C	36 m	500 mL	6
21-031-CM	[-] Calcium and magnesium, 1x	2°C to 30°C	36 m	1L	6
21-031-LX	[-] Calcium and magnesium, 1x	2°C to 30°C	36 m	10L	1
21-031-LB	[-] Calcium and magnesium, 1x	2°C to 8°C	36 m	20L	1

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
55-031-PB	[-] Calcium and magnesium	2°C to 8°C	36 m	10L	1
55-031-PC	[-] Calcium and magnesium	2°C to 8°C	36 m	50L	1

*Powder media volume indicated is the reconstituted volume

PBS (Phosphate Buffered Saline)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
21-040-CV	[-] Calcium and magnesium, pH 7.4 ± 0.1, 1x	2°C to 30°C	24 m	500 mL	6
21-040-CM	[-] Calcium and magnesium, pH 7.4 ± 0.1, 1x	2°C to 30°C	24 m	1L	6
21-040-CMX12	[-] Calcium and magnesium, pH 7.4 ± 0.1, 1x	2°C to 30°C	24 m	1L	12

HBSS (Hank's Balanced Salt Solution)

							Powder
Contains	**20-021**	**20-023**	**21-020**	**21-021**	**21-022**	**21-023**	**55-022**
Calcium		■	■			■	
Magnesium		■	■			■	
Phenol red	■		■	■			
Sodium bicarbonate			■	■	■	■	

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
20-021-CV	[-] Sodium bicarbonate, calcium, magnesium	2°C to 30°C	36 m	500 mL	6
20-023-CV	[+] Calcium, magnesium; [-] phenol red, sodium bicarbonate	2°C to 30°C	36 m	500 mL	6
21-020-CV	[+] Calcium, magnesium, 1x	2°C to 30°C	36 m	500 mL	6
21-020-CM	[+] Calcium, magnesium, 1x	2°C to 30°C	36 m	1L	6
21-021-CV	[-] Calcium, magnesium, 1x	2°C to 30°C	36 m	500 mL	6
21-021-CM	[-] Calcium, magnesium, 1x	2°C to 30°C	36 m	1L	6
21-022-CV	[-] Calcium, magnesium, phenol red, 1x	2°C to 30°C	36 m	500 mL	6
21-022-CM	[-] Calcium, magnesium, phenol red, 1x	2°C to 30°C	36 m	1L	6
21-023-CV	[+] Calcium, magnesium; [-] phenol red, 1x	2°C to 30°C	36 m	500 mL	6
21-023-CM	[+] Calcium, magnesium; [-] phenol red, 1x	2°C to 30°C	36 m	1L	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size*	Qty/Pk
55-022-PB	[-] Sodium bicarbonate, calcium, magnesium	2°C to 8°C	36 m	10L	1

*Powder media volume indicated is the reconstituted volume

Serum-free/Specialty Media and Solutions

Serum has been extensively used as a supplement to chemically defined media for mammalian cell culture due to its beneficial attributes. As a complex supplement it contains proteins, growth factors, hormones, amino acids, sugars, trypsin inhibitors, and lipids which support vigorous *in vitro* growth of a large number of cell types.

However, there are many negative aspects associated with the use of serum such as cost, time-consuming sampling, lot-to-lot variability, presence of adventitious agents, and availability. These aspects are particularly troublesome with the use of serum in the production of recombinant proteins, viral vaccines, cellular therapies, and monoclonal antibodies. In such cases, extensive downstream purification is required to remove serum-derived protein from the medium and to assure the absence of adventitious pathogens.

To minimize those problems associated with the use of serum, several defined, serum-free media have been developed and commercialized. Serum-free growth media pose numerous advantages over the use of serum, including lot-to-lot consistency, reduced foaming, the reduction of exogenous agents, simpler downstream processing, and high cell yield support.

SF Medium

SF Medium is based on a proprietary classical media formulation. This medium contains a mixture of select trace elements and high molecular weight carbohydrates, extra vitamins, animal-free protein, and a small amount of high quality bovine serum albumin (1.0 g/L). SF Medium supports superior growth and viability over long-term passages in hybridomas, as well as suspension and adherent cell cultures. This formulation contains L-glutamine.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
40-101-CV	[+] L-glutamine, 1 g/L BSA	2°C to 8°C	12 m	500 mL	6
40-102-CV	[+] L-glutamine, 1 g/L BSA; [-] phenol red	2°C to 8°C	12 m	500 mL	6

PF Medium

Optimized for the cultivation of Chinese Hamster Ovary (CHO) cells, along with many derivatives of this parent line, PF Medium is a proprietary serum-free and protein-free growth medium that does not contain any hormones or growth factors. This medium supports superior growth and viability over long-term passages in both adherent and suspension culture, and is formulated without L-glutamine.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
40-200-CV	[-] L-glutamine	2°C to 8°C	12 m	500 mL	6

Corning® transfectagro™ Reduced-serum Medium

transfectagro reduced-serum medium is designed to maximize the growth of a variety of cell types under reduced-serum conditions, generally allowing for at least a 50% reduction in serum use with minimal adaptation. A chemically defined, reduced-serum formulation, transfectagro also improves transient transfection efficiency in a variety of cell types.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
40-300-CV	[+] Lower levels of calcium and phenol red, HEPES	2°C to 8°C	12 m	500 mL	6

LSM (Lymphocyte Separation Medium)

Lymphocyte Separation Medium was originally designed for the *in vitro* isolation of lymphocytes from diluted whole blood. It is a sterile filtered, iso-osmotic polysucrose and diatrizoate solution with low viscosity and a density of 1.077-1.080 g/cm^3 at 20°C.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-072-CI	LSM, Density - 1.077 - 1.080 g/cm^3 at 20°C	15°C to 30°C	18 m	100 mL	1
25-072-CV	LSM, Density - 1.077 - 1.080 g/cm^3 at 20°C	15°C to 30°C	18 m	500 mL	1

TSB (Tryptic Soy Broth)

Tryptic Soy Broth is a sterile-filtered, ready-to-use solution for use in sterility testing and validation in the manufacture of a liquid product. The use of this medium in place of the product intended for production allows for the assessment of the capability of an aseptic manufacturing process. Due to the rich nutrient base, TSB may be used in the cultivation of fastidious micro-organisms. This growth medium has animal-free components, making it ideal for testing the sterility of animal-free biopharmaceutical processes.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-060-CI	Tryptic soy broth, animal-free	15°C to 30°C	12 m	100 mL	1
46-060-CM	Tryptic soy broth, animal-free	15°C to 30°C	12 m	1L	1
46-060-LB	Tryptic soy broth, animal-free	15°C to 30°C	12 m	20L	1

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-411-RO	Tryptic soy broth, animal-free	15°C to 30°C	12 m	500 g	1

Hepatocyte Maintenance Medium

Hepatocyte Maintenance Medium is designed for the *in vitro* cultivation and maintenance of hepatocytes for research applications, drug discovery, and studies related to preclinical drug-induced liver injury. This specialized medium is optimized for primary human hepatocytes. It maintains the physiological relationships between hepatic Phase I and II drug metabolism enzymes as well as influx and efflux transporters. It also meets the long-term high-metabolic needs of hepatocytes. Hepatocyte Maintenance Medium is defined, animal-origin free and serum-free.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
40-550-CV	Hepatocyte maintenance medium	2°C to 8°C	*	500 mL	1

* Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media

Corning® hybrigro™ SF Medium

Specifically developed for serum-free growth and antibody production with a variety of hybridoma cell lines, hybrigro SF medium is a complete, animal-free component, defined medium.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
40-215-CV	hybrigro SF medium with Corning glutagro™ supplement	2°C to 8°C	12 m	500 mL	6

Corning stemgro® hMSC Medium

Serum-free stemgro hMSC medium has been designed for the maximum expansion of human mesenchymal stem cells (hMSCs) derived from bone marrow, cord blood, or adipose tissue. The stemgro hMSC medium is defined as its components are either chemically synthesized or recombinantly produced and purified. The stemgro hMSC medium offers the convenience of no vessel coating with biological materials if used with Corning CellBIND® or Primaria™ surface cell culture vessels, saving the cost of coating materials and time.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
40-410-KIT	stemgro hMSC medium and supplement	-20°C to 8°C	12 m	KIT	1

INSECT MEDIA

Corning insectagro® DS2 Serum-free/Protein-free Medium, 1x

insectagro DS2 serum-free/protein-free medium was developed for the growth and maintenance of Drosophila Schneider 2 (DS2) cells to be used in heterologous protein expression. At the optimal temperature range (22°C to 24°C), DS2 cells grow as a loose monolayer and are readily adaptable to growth in suspension. Under these conditions, the cells require minimal adaptation to serum-free culture.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
13-402-CV	insectagro DS2 serum-free/protein-free medium, 1x [-] L-glutamine	2°C to 8°C	12 m	500 mL	6

Corning insectagro Sf9 Serum-free/Protein-free Medium

The insectagro Sf9 is formulated to support the propagation of Sf9 insect cells in culture, and can also be used with Sf21 cells. Sf9 cells cultured in non-humidified, non-CO_2 incubators at 27°C (room temperature) display both monolayer and suspension culture qualities. With their fast doubling times of 18 to 22 hours, Sf9 cells are easily scaled up to large cultures using bioreactors.

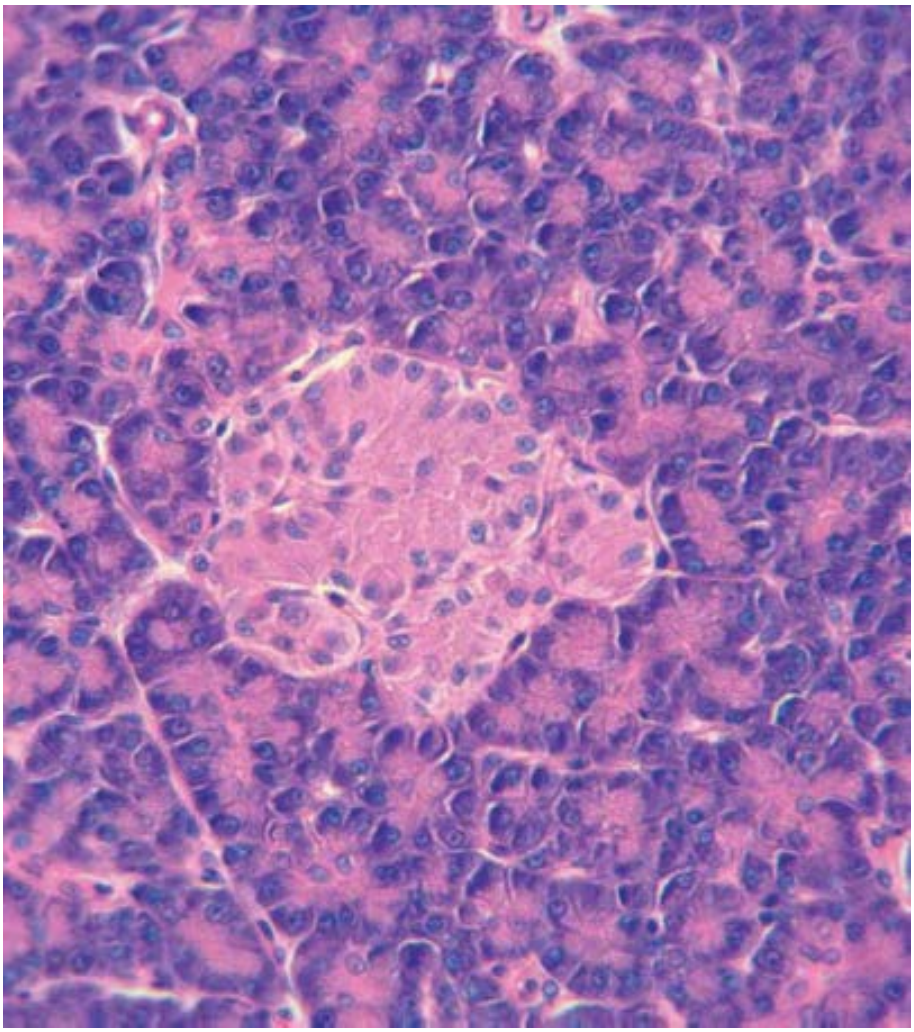
Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
13-410-CV	insectagro Sf9 serum-free/protein-free medium [+] L-glutamine	2°C to 8°C	12 m	500 mL	6

Islet Solutions

Islet cell isolation and processing for diabetes research requires a variety of specialized cell culture media, separation and gradient solutions, porcine-specific solutions, and related isolation, trimming, and storage/preservation solutions. Most islet solutions have been customized to include or leave out components such as insulin, transferrin, HSA, ciprofloxacin, and HEPES.

Corning's portfolio of specialized media has been cited in multiple islet cell isolation protocols for type 1 diabetes research.



Islet Solutions and Reagents

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
98-021-CV	Miami medium #1A with HSA and sodium bicarbonate	2°C to 8°C	18 m	500 mL	1
98-291-CV	CMRL 1066 with HEPES, without sodium bicarbonate and phenol red	2°C to 8°C	18 m	500 mL	1
98-304-CV	CMRL 1066, supplemented, CIT modification	2°C to 8°C	18 m	500 mL	1
99-603-CV	CMRL 1066, supplemented	2°C to 8°C	18 m	500 mL	1
99-663-CV	CMRL 1066 without phenol red, L-glutamine	2°C to 8°C	18 m	500 mL	1
99-595-CM	RPMI 1640 with L-glutamine	2°C to 8°C	18 m	1 L	1
99-597-CM	HBSS (Hank's Balanced Salt Solution), modified for islets	2°C to 8°C	18 m	1 L	1
99-674-CM	Gradient stock solution, density 1.110 to 1.121 g/cm³	2°C to 8°C	24 m	1 L	1
99-676-CM	Trimming solution	2°C to 8°C	24 m	1 L	1
99-677-CM	Cold storage/purification stock solution, density 1.026 to 1.032 g/cm³	2°C to 8°C	18 m	1 L	1
99-678-CM	Phase I solution	2°C to 8°C	24 m	1 L	1
99-723-CM	Penta starch, 10% solution	2°C to 8°C	18 m	1 L	1
99-781-CV	Perfusion solution with HEPES, without phenol red	2°C to 8°C	24 m	500 mL	1
99-782-CM	Priming solution with HEPES, without phenol red, and sodium bicarbonate	15°C to 30°C	24 m	1 L	1
99-783-CM	Dilution solution, RPMI 1640 with HEPES, L-glutamine, without HSA and phenol red	2°C to 8°C	18 m	1 L	1
99-784-CM	Wash solution, medium 199 with 25 mM HEPES, without phenol red, L-glutamine, and sodium bicarbonate	2°C to 8°C	18 m	1 L	1
99-785-CV	Final wash/culture medium, CMRL 1066 without phenol red, with HSA, HEPES, and L-glutamine	2°C to 8°C	18 m	500 mL	1
99-786-CV	Functionality/viability solution, CMRL 1066 without glucose	2°C to 8°C	12 m	500 mL	1

Cell Separation and Gradient Solutions

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
99-662-CVS	Stock Polysucrose solution (Euro-Collins), density 1.132 g/cm³	2°C to 8°C	12 m	350 mL	1
99-690-CIS	Islet gradient, density 1.037 g/cm³	2°C to 8°C	12 m	75 mL	1
99-691-CIS	Islet gradient, density 1.096 g/cm³	2°C to 8°C	12 m	75 mL	1
99-692-CIS	Islet gradient, density 1.108 g/cm³	2°C to 8°C	12 m	75 mL	1
99-815-CIS	Islet gradient, density 1.069 g/cm³	2°C to 8°C	12 m	75 mL	1
25-072-CI	LSM (Lymphocyte Separation Medium), density 1.077 g/cm³	15°C to 30°C	18 m	100 mL	1
25-072-CV	LSM (Lymphocyte Separation Medium), density 1.077 g/cm³	15°C to 30°C	18 m	500 mL	1
61-196-RM	Polysucrose 400	15°C to 30°C	≥12 m	100 g	1
61-196-RO	Polysucrose 400	15°C to 30°C	≥12 m	500 g	1

Porcine Solutions

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
98-343-CV	Neonatal porcine islet culture medium	2°C to 8°C	*	500 mL	1
99-601-CM	Medium 199, porcine modification, with 25 mM HEPES, without phenol red, L-glutamine, and sodium bicarbonate	2°C to 8°C	*	1L	1

*Please inquire for lot-specific expiration dates or view current certificate of analysis at www.corning.com/lifesciences/media.

Preservation Solutions

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
99-408-CM	Glucose solution (Euro-Collins)	15°C to 30°C	24 m	1L	1
99-409-CI	Electrolyte additive solution (Euro-Collins)	15°C to 30°C	24 m	100 mL	1

Human and Animal Sera

Our high-quality serum products perfectly complement our wide range of sterile-filtered, low-endotoxin, classical cell culture media.

Premium Fetal Bovine Serum is U.S.-sourced, with low endotoxin and hemoglobin specifications and is collected from cattle herds located within the United States. It is also available heat-inactivated.

Regular Fetal Bovine Serum is derived from USDA-certified facilities outside the United States. These facilities are located in countries which are recognized by the United States Department of Agriculture (USDA) to be free of bovine spongiform encephalopathy (BSE) and foot and mouth disease (FMD).

Regular Fetal Bovine Serum is also available heat-inactivated.

Specialty serum products are also offered by Corning for a variety of product applications.

Fetal Bovine Serum

Fetal Bovine Serum (FBS) is a light brown-colored liquid separated from the blood of the bovine fetus. All material meets the approval of the USDA and is obtained from sources free of BSE, FMD, and other reportable diseases pertaining to the species.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
35-010-CV	Fetal Bovine Serum, regular	-25°C to -15°C	*	500 mL	1
35-011-CV	Fetal Bovine Serum, regular (heat inactivated)	-25°C to -15°C	*	500 mL	1
35-015-CV	Fetal Bovine Serum, premium	-25°C to -15°C	*	500 mL	1
35-016-CV	Fetal Bovine Serum, premium (heat inactivated)	-25°C to -15°C	*	500 mL	1
35-070-CV	Fetal Bovine Serum, premium	-25°C to -15°C	*	500 mL	1
35-071-CV	Fetal Bovine Serum, premium (dialyzed)	-25°C to -15°C	*	500 mL	1
35-072-CV	Fetal Bovine Serum, premium (charcoal stripped)	-25°C to -15°C	*	500 mL	1
35-073-CV	Fetal Bovine Serum, premium (low IgG)	-25°C to -15°C	*	500 mL	1
35-074-CV	Fetal Bovine Serum, premium (embryonic stem cell tested)	-25°C to -15°C	*	500 mL	1
35-075-CV	Fetal Bovine Serum, premium (tetracycline negative)	-25°C to -15°C	*	500 mL	1
35-076-CV	Fetal Bovine Serum, Australia origin	-25°C to -15°C	*	500 mL	1

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Donor Calf Serum, U.S. Sourced

Donor Calf Serum is a light brown-colored liquid collected from standing herds of bovine calves located entirely in the United States. Animals are regularly inspected by licensed veterinarians and certified to be free of diseases pertaining to the species.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
35-022-CV	Donor Calf Serum, U.S. sourced	-25°C to -15°C	*	500 mL	1

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Donor Horse Serum, U.S. Sourced

Donor Horse Serum is a light brown-colored liquid collected from controlled standing herds of animals located entirely in the United States. Animals are inspected periodically by a licensed veterinarian, certified to be free of diseases pertaining to the species.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
35-030-CV	Donor Horse Serum, U.S. sourced	-25°C to -15°C	*	500 mL	1

* Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Human AB Serum

Human AB Serum is processed from donor plasma collected at U.S. centers. Each donor unit of plasma is negative for Hepatitis B (HBsAg), Hepatitis C (anti-HCV), Human Immunodeficiency Virus-1 (HIV-1), Human Immunodeficiency Virus-2 (HIV-2), Human Immunodeficiency Virus antibody (HIV-1Ag), and alanine aminotransferase (ALT) using FDA approved methods.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
35-060-CI	Human AB serum	-25°C to -15°C	*	100 mL	1

* Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Cell Culture Reagents

Growth media is used either for cell culture or microbiological culture. These cultures require nutrients, supplements, buffers, and other reagents specific to the product being grown to maximize results and consistency.

There are two major types of growth media: those used for cell culture, which use specific cell types derived from plants or animals, and microbiological culture, which are used for growing microorganisms, such as bacteria or yeast.

Specialized media are sometimes required for microorganism and cell culture growth. Some organisms, termed fastidious organisms, require specialized environments due to complex nutritional requirements. Viruses, for example, are obligate intracellular parasites and require a growth medium composed of living cells.

AMINO ACIDS AND VITAMINS

Supplementation table for L-glutamine and Corning® glutagro™ supplement.

Media	mg/L	mM	200 mM L-glutamine (25-005) or 200 mM Corning glutagro Supplement (25-015)
AMEM	292	2.00	10.0 mL/L
BME	292.3	2.00	10.0 mL/L
DMEM	584	4.00	20.0 mL/L
DMEM/F12	362.1	2.48	12.4 mL/L
F12K	292	2.00	10.0 mL/L
Ham's F-10	146.2	1.00	5.0 mL/L
Ham's F-12	146.2	1.00	5.0 mL/L
Iscove's DMEM	584	4.00	20.0 mL/L
M199	100	0.68	3.4 mL/L
EMEM	292	2.00	10.0 mL/L
RPMI 1640	300	2.05	10.3 mL/L

Corning glutagro Supplement

The glutagro supplement is a stabilized dipeptide form of L-glutamine which does not degrade in liquid media during storage or incubation, providing superior results in several applications.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-015-CI	glutagro supplement, 200 mM solution, 100x (with 8.5 g/L NaCl)	2°C to 30°C	24 m	100 mL	1

L-glutamine

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-005-CI	L-glutamine, 200 mM solution, 100x (with 8.5 g/L NaCl)	-25°C to -15°C	24 m	500 mL	6
25-005-CV	L-glutamine, 200 mM solution, 100x (with 8.5 g/L NaCl)	-25°C to -15°C	24 m	500 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-030-RM	L-glutamine	2°C to 8°C	12 m	100 g	1
61-030-RO	L-glutamine	2°C to 8°C	12 m	500 g	1
61-030-RR	L-glutamine	2°C to 8°C	12 m	1 kg	1

MEM Amino Acids

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-030-CI	[-] L-glutamine, 50x	2°C to 8°C	36 m	100 mL	6

MEM Non-essential Amino Acids

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-025-CI	MEM non-essential amino acids, 100x	2°C to 8°C	18 m	100 mL	6

MEM Vitamins

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-020-CI	MEM vitamins, 100x	-25°C to -15°C	18 m	100 mL	6

ANTIBIOTICS AND ANTIMYCOTICS

Amphotericin B

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-003-CF	Amphotericin B, liquid	-25°C to -15°C	18 m	50 mL	6

Ampicillin Sodium Salt

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-238-RH	Ampicillin sodium salt	2°C to 8°C	≥12 m	10 g	1
61-238-RM	Ampicillin sodium salt	2°C to 8°C	≥12 m	100 g	1

Antibiotic-Antimycotic Solution

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-004-CI	10,000 I.U. Penicillin (per mL), 10,000 µg/mL Streptomycin, 25 µg/mL Amphotericin with 8.5 g/L NaCl	-25°C to -15°C	18 m	100 mL	6

Blasticidin S HCl

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-100-RB	Blasticidin S HCl	-25°C to -15°C	18 m	50 mg	1

Chloramphenicol

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-239-RI	Chloramphenicol	15°C to 25°C	≥12 m	25 g	1

Ciprofloxacin Hydrochloride

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-277-RF	Ciprofloxacin hydrochloride	15°C to 25°C	≥12 m	1 g	1
61-277-RG	Ciprofloxacin hydrochloride	15°C to 25°C	≥12 m	5 g	1

G418 Sulfate

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-234-CR	G418 Sulfate, 50 mg/mL solution	2°C to 8°C	≥12 m	20 mL	1
30-234-CI	G418 Sulfate, 50 mg/mL solution	2°C to 8°C	≥12 m	100 mL	1

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-234-RF	G418 Sulfate, potency >700 µg/mg	15°C to 30°C	≥12 m	1 g	1
61-234-RG	G418 Sulfate, potency >700 µg/mg	15°C to 30°C	≥12 m	5 g	1
61-234-RK	G418 Sulfate, potency >700 µg/mg	15°C to 30°C	≥12 m	50 kg	1

Gentamicin Sulfate

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-005-CR	Gentamicin sulfate	15°C to 30°C	12 m	10 mL	10

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-098-RA	Gentamicin sulfate	2°C to 8°C	≥12 m	100 mg	1
61-098-RF	Gentamicin sulfate	2°C to 8°C	≥12 m	1 g	1

Hygromycin B Solution

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-240-CR	Hygromycin B solution	2°C to 8°C	18 m	10 mL	1

Kanamycin Sulfate

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-006-CF	Kanamycin sulfate	-25°C to -15°C	18 m	50 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-176-RG	Kanamycin sulfate	15°C to 30°C	18 m	5 g	1

Neomycin Sulfate

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-241-RG	Neomycin sulfate	15°C to 30°C	18 m	5 g	1

Penicillin-Streptomycin Solution

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-001-CI	Penicillin-Streptomycin solution, 50x	-25°C to -15°C	12 m	100 mL	6
30-002-CI	Penicillin-Streptomycin solution, 100x	-25°C to -15°C	12 m	100 mL	6
30-009-CI	Penicillin-Streptomycin solution, 100x [+] 29.2 mg/mL L-glutamine	-25°C to -15°C	12 m	100 mL	6

Puromycin Dihydrochloride

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-385-RA	Puromycin dihydrochloride	-25°C to -15°C	12 m	0.1 g	1

Streptomycin Sulfate

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-088-RM	Streptomycin sulfate	15°C to 30°C	12 m	100 g	1

Tetracycline Hydrochloride

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-242-RG	Tetracycline hHydrochloride	15°C to 30°C	12 m	5 g	1

BUFFERS

HEPES

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-060-CI	HEPES, 1M solution (238.3 mg/mL)	15°C to 30°C	24 m	100 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-034-RM	HEPES	15°C to 30°C	≥12 m	100 g	1
61-034-RO	HEPES	15°C to 30°C	≥12 m	500 g	1
61-034-RR	HEPES	15°C to 30°C	≥12 m	1 kg	1

Sodium Bicarbonate

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-035-CI	Sodium bicarbonate, 7.5% solution	15°C to 30°C	36 m	100 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-065-RO	Sodium bicarbonate	15°C to 30°C	≥12 m	500 g	1
61-065-RR	Sodium bicarbonate	15°C to 30°C	≥12 m	1 kg	1

ENZYMATIC CELL DISSOCIATION AGENTS

Accutase® Cell Detachment Solution

Accutase is an effective solution for routinely detaching cells from standard tissue culture-treated vessels, as well as advanced surface treatments or coatings. Accutase is useful for cell detachment and for preparing single-cell suspensions from clumped cell populations for sub-culturing cells, analytical studies, and for accurate cell counting. Accutase is free of mammalian or bacterial-derived products, which reduces the risk of contamination.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-058-CI	Accutase cell detachment solution	-25°C to -15°C	18 m	100 mL	1

Trypsin

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-050-CI	0.25% Trypsin in HBSS; [-] calcium, magnesium	-25°C to -15°C	12 m	100 mL	6
25-051-CI	0.05% Trypsin/0.53 mM EDTA in HBSS; [+] sodium bicarbonate, [-] calcium, magnesium	-25°C to -15°C	12 m	100 mL	6
25-052-CI	0.05% Trypsin/0.53 mM EDTA in HBSS; [-] sodium bicarbonate, calcium, magnesium	-25°C to -15°C	12 m	100 mL	6
25-052-CV	0.05% Trypsin/0.53 mM EDTA in HBSS; [-] sodium bicarbonate, calcium, magnesium	-25°C to -15°C	12 m	500 mL	6
25-053-CI	0.25% Trypsin/2.21 mM EDTA in HBSS; [-] sodium bicarbonate, calcium, magnesium	-25°C to -15°C	12 m	100 mL	6
25-054-CI	2.5% Trypsin in HBSS; [-] calcium, magnesium, phenol red	-25°C to -15°C	12 m	100 mL	6

NON-ENZYMATIC CELL DISSOCIATION AGENTS

Corning® Cellstripper® Solution

Cellstripper Solution is a non-enzymatic cell dissociation solution formulated with a proprietary mixture of chelators that gently dislodge adherent cells in tissue culture. It is an alternative to trypsin or Accutase® cell detachment solution when used with either serum-free or serum-supplemented media. Because Cellstripper Solution is a gentler reagent than trypsin, cells can be exposed to Cellstripper Solution for longer periods of time. Cellstripper Solution achieves superior results in comparison to enzymatic dissociation products.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-056-CI	Cellstripper Solution	15°C to 30°C	12 m	100 mL	6

GROWTH SUPPLEMENTS

ITS (Insulin, Transferrin, Selenium)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-800-CR	ITS (Insulin, Transferrin, Selenium), 100x	2°C to 8°C	18 m	10 mL	1

rhAlbumin

rhAlbumin is a chemically defined recombinant human serum albumin (rhHSA). Having an essential and non-essential fatty acid profile, this is a powerful media supplement that outperforms plasma-derived human serum albumin (pHSA), bovine serum albumin (BSA), and FBS. Some prominent applications for rhAlbumin are as a supplement for CHO cell culture and for the culture of various other cell lines. This product is plant-derived and completely animal-free.

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
62-450-RF	rhAlbumin	-20°C to 8°C	12 m	1 g	1

Trace Elements A

Trace Elements A provides copper, zinc, iron and selenium. Selenium aids in the detoxification of free radicals as a cofactor for GSH synthetase, while iron, copper, and zinc may be bound by serum protein. The combination of Trace Elements A and B contains the trace elements of MCDB 104.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-021-CI	Trace Elements A, 1000x solution	15°C to 30°C	*	100 mL	1

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Trace Elements B

Trace Elements B has the same composition as Cleveland's Trace Elements I. The combination of Trace Elements A, B, and C contains the trace elements of MCDB 301.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-022-CI	Trace Elements B, 1000x solution	2°C to 8°C	*	100 mL	1

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Trace Elements C

Trace Elements C has the same composition of Cleveland's Trace Elements II, and the combination of Trace Elements A, B, and C contains the trace elements of MCDB 301.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-023-CI	Trace Elements C, 1000x solution	2°C to 8°C	*	100 mL	1

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

HYBRIDOMA REAGENTS

HAT (Hypoxanthine, Aminopterin, Thymidine)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-046-CI	HAT (Hypoxanthine, Aminopterin, Thymidine), 50x	-25°C to -15°C	28 m	100 mL	1

HT (Hypoxanthine, Thymidine)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-047-CI	HT (Hypoxanthine, Thymidine), 50x	2°C to 8°C	20 m	100 mL	1

INSECT REAGENTS

Poloxamer 188

Poloxamer 188 is a synthetic polymer of sucrose and epichlorohydrin used for the density gradient separation of cells, cell membranes, and virus cells. It can also be used to isolate different organelles. This nonionic compound is provided in powder and liquid forms.

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
13-901-CI	Poloxamer 188	2°C to 8°C	12 m	100 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-161-RM	Poloxamer 188	15°C to 30°C	≥12 m	100 g	1

Polysucrose 400

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-196-RM	Polysucrose 400	15°C to 30°C	≥12 m	100 g	1
61-196-RO	Polysucrose 400	15°C to 30°C	≥12 m	500 g	1

MISCELLANEOUS REAGENTS

DMSO (Dimethyl Sulfoxide)

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-950-CQC	DMSO (Dimethyl sulfoxide)	15°C to 30°C	12 m	250 mL	1

45% Glucose Solution

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-037-CI	45% Glucose solution	15°C to 30°C	24 m	100 mL	1

Sodium Pyruvate

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-000-CI	100 mM Sodium pyruvate solution with 8.5 g/L NaCl	2°C to 8°C	18 m	100 mL	6

Tris Base Buffer

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-233-RM	Tris base buffer	15°C to 30°C	>12 m*	100 g	1
61-233-RR	Tris base buffer	15°C to 30°C	>12 m*	1 kg	1
61-233-RT	Tris base buffer	15°C to 30°C	>12 m*	5 kg	1

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

Trypan Blue Solution

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-900-CI	Trypan blue solution, 0.4% (w/v) in PBS, pH 7.5 ± 0.5	15°C to 30°C	24 m	100 mL	1

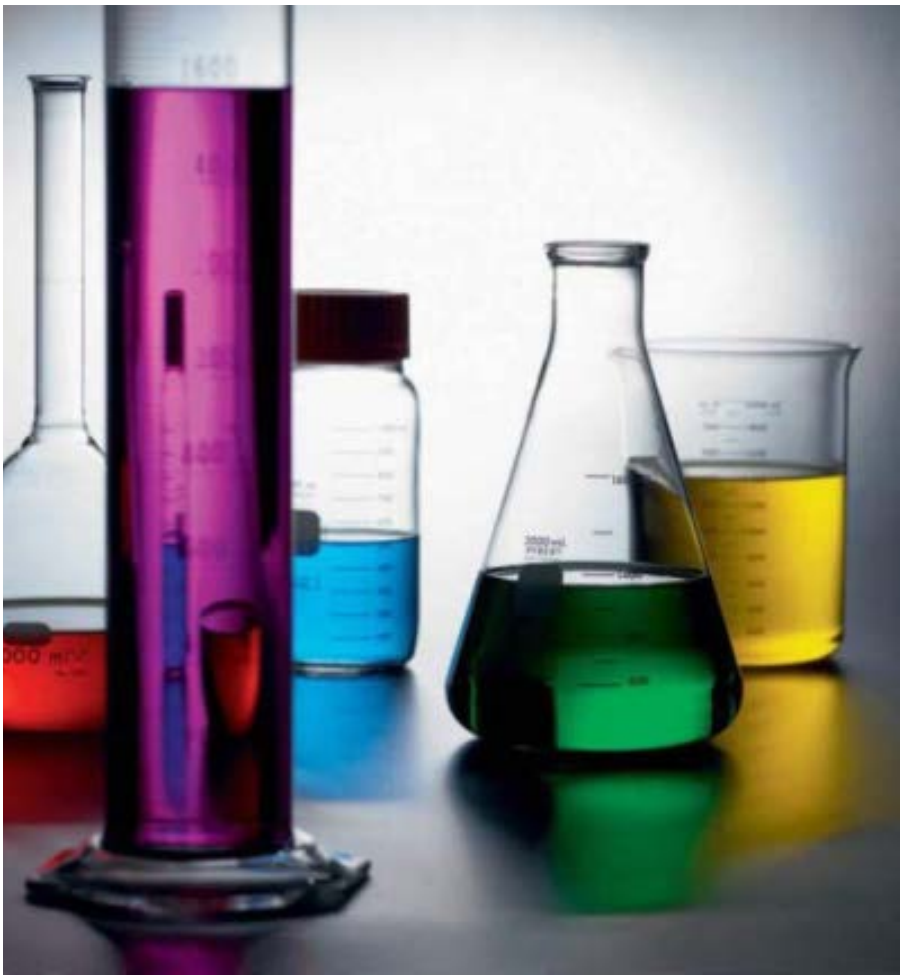
Yeast Extract

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-231-RO	Yeast extract	15°C to 30°C	20 m	500 g	1

Microbiology and Molecular Biology

Our molecular biology product line ranges from microbiological media and components to molecular reagents and buffers. With a wide range of antibiotics to choose from, these products allow you to select your growth as well as ensure their viability and proliferation. Many of the antibiotics offered are members of the aminoglycoside family whose mechanism of action works by binding to the 30S ribosomal subunit.



Miller's LB Broth

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-050-CM	Miller's LB broth	15°C to 30°C	*	1L	6

*Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

S.O.C. Medium

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-003-CR	S.O.C. medium	15°C to 30°C	12 m	10 mL	10

Terrific Broth

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-055-CM	Terrific broth	15°C to 30°C	12 m	1L	6

Ampicillin Sodium Salt

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-238-RH	Ampicillin sodium salt	2°C to 8°C	24-30 m	10 g	1
61-238-RM	Ampicillin sodium Salt	2°C to 8°C	24-30 m	100 g	1

Carbenicillin Disodium Salt

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-100-RG	Carbenicillin disodium salt	2°C to 8°C	24-30 m	5 g	1

Kanamycin Sulfate

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
30-006-CF	Kanamycin sulfate	-25°C to -15°C	12 m	50 mL	6

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-176-RG	Kanamycin sulfate	15°C to 30°C	≥12 m	5 g	1

Neomycin Sulfate

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-241-RG	Neomycin sulfate	15°C to 30°C	12 m	5 g	1

Streptomycin Sulfate

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-088-RM	Streptomycin sulfate	2°C to 8°C	12 m	100 g	1

Tetracycline Hydrochloride

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
61-242-RG	Tetracycline hydrochloride	2°C to 8°C	12 m	5 g	1

X-Gal

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-101-RF	X-Gal	-25°C to -15°C	24 m	1 g	1

IPTG (Isopropylthiogalactoside)

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-102-RF	IPTG (Isopropylthiogalactoside)	-25°C to -15°C	36 m	1 g	1

BUFFERS

MOPS Buffer

Powder

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-103-RM	MOPS buffer, pH 6.5-7.9	15°C to 30°C	*	100 g	1

* Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media.

PBS (Phosphate Buffered Saline), 10x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-013-CM	PBS, [-] Calcium, magnesium, pH 7.4 ± 0.1, RNase-/DNase- and protease-free, 10X	15°C to 30°C	24 m	1L	6

SSC Buffer, 20x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-020-CM	SSC buffer, pH 7.0 ± 0.1, RNase-/DNase- and protease-free, 20X	15°C to 30°C	24 m	1L	6

SSPE Buffer, 20x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-021-CM	SSPE buffer, pH 7.4 ± 0.1, RNase-/DNase- and protease-free, 20X	15°C to 30°C	18 m	1L	6

TAE Buffer, 10x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-010-CM	TAE buffer, pH 8.3 ± 0.1, RNase-/DNase- and protease-free, 10X	15°C to 30°C	24 m	1L	6

TBE Buffer, 10x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-011-CM	TBE buffer, pH 8.4 ± 0.1, RNase-/DNase- and protease-free, 10X	15°C to 30°C	24 m	1L	6

TE Buffer, 1x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-009-CM	TE buffer, pH 7.9-8.1, RNase-/DNase- and protease-free, 1X	15°C to 30°C	12 m	1L	6

Tris Buffered Saline, 10x

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-012-CM	Tris buffered saline, pH 7.4 ± 0.1, RNase-/DNase- and protease-free, 10X	15°C to 30°C	12 m	1L	6

Tris-HCl Buffers, 1M

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-030-CM	Tris-HCl buffers, pH 7.5 ± 0.1, RNase-/DNase- and protease-free, 1M	15°C to 30°C	24 m	1L	6
46-031-CM	Tris-HCl buffers, pH 8.0 ± 1.0, RNase-/DNase- and protease-free, 1M	15°C to 30°C	24 m	1L	6

REAGENTS

EDTA, 0.5M

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-034-CI	EDTA, 0.5M, pH 8.0	15°C to 30°C	24 m	100 mL	1

SDS (Sodium Dodecyl Sulfate), 10%

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-040-CI	SDS (Sodium Dodecyl Sulfate), 10%	15°C to 30°C	24 m	100 mL	1

Sodium Acetate, 3M

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-033-CI	Sodium acetate, 3M, pH 5.2 ± 0.1	15°C to 30°C	24 m	100 mL	1

Sodium Chloride, 5M

Liquid

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-032-CV	Sodium chloride, 5M	15°C to 30°C	24 m	500 mL	6

High-quality Water

Corning® high quality water is manufactured in our Mediatech, Inc. facility. Products are manufactured under the current ISO 13485 standard and the FDA Quality System Regulation 21 CFR 820, current good manufacturing practices (cGMP).

Corning offers a range of high quality water products for small and large volume requirements. These products reduce the expense of installing and maintaining your own water system, and ensure you have a secondary source of water that meets your specifications.

Corning high-quality water is available in a variety of sizes, and tested to specifications which may include USP and/or EP monograph requirements.

Cell Culture Grade Water

Cell culture grade water is high-quality water suitable for use as a solvent in the preparation of cell culture media and other reagents for sensitive applications. Our bioprocess container selections are suitable for large-scale applications such as cleaning and upstream and downstream reagent preparation. Cell culture grade water goes through a wide array of testing which includes testing to the chemical and physical properties found in the USP and EP monographs for sterile Water for Injection (WFI).

Tested to USP sterile WFI specifications

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-055-CI	Water, cell culture grade	15°C to 30°C	36 m	100 mL	6
25-055-CV	Water, cell culture grade	15°C to 30°C	36 m	500 mL	6
25-055-CVC	Water, cell culture grade, with septum cap	15°C to 30°C	36 m	500 mL	6
25-055-CM	Water, cell culture grade	15°C to 30°C	36 m	1L	6
25-055-LB	Water, cell culture grade	15°C to 30°C	36 m	20L	1
25-055-LG	Water, cell culture grade	15°C to 30°C	36 m	100L	1
25-055-LH	Water, cell culture grade	15°C to 30°C	36 m	200L	1

Tested to USP and EP sterile WFI specifications

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
25-065-LB	Water, cell culture grade	15°C to 30°C	36 m	20L	1
25-065-LG	Water, cell culture grade	15°C to 30°C	36 m	100L	1
25-065-LH	Water, cell culture grade	15°C to 30°C	36 m	200L	1

Molecular Biology Grade Water

Molecular biology grade water is ideal for applications where highly pure, RNase-, DNase-, and protease-free water is required (e.g., PCR and other molecular biology reactions setup, DNA/RNA/protein extraction, purification, and storage reagents). Molecular biology grade water is tested to the chemical and physical properties found in the USP monograph for sterile purified water.

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-000-CI	Water, molecular biology grade	15°C to 30°C	24 m	100 mL	6
46-000-CV	Water, molecular biology grade	15°C to 30°C	24 m	500 mL	6
46-000-CM	Water, molecular biology grade	15°C to 30°C	24 m	1L	6

Reagent Grade Water

Reagent grade water is suitable for the preparation of reagents, rinsing glassware and plasticware, cleaning electrodes and other common laboratory tasks requiring highly pure, RNase-, DNase-, and protease-free water. To ensure product quality, reagent grade water is tested to the chemical and physical properties found in the USP monograph for purified water.

Cat. No.	Description	Storage	Shelf Life	Size	Qty/Pk
46-002-LF	Water, reagent grade	15°C to 30°C	*	4L	2

* Please inquire for lot-specific expiration dates or view the current certificate of analysis at www.corning.com/lifesciences/media

Flexible Packaging Systems

Corning® flexible packaging systems are available in multiple formats. They include custom configurations to meet your exact requirements. Our single-use bags are designed to be practical and cost-effective alternatives to rigid-walled containers. They are fabricated to match your specific application with a variety of bag sizes and tubing/connector configurations available. These containment and delivery systems preserve the physical, chemical, and functional characteristics of sterile and process fluids.

Features and Benefits

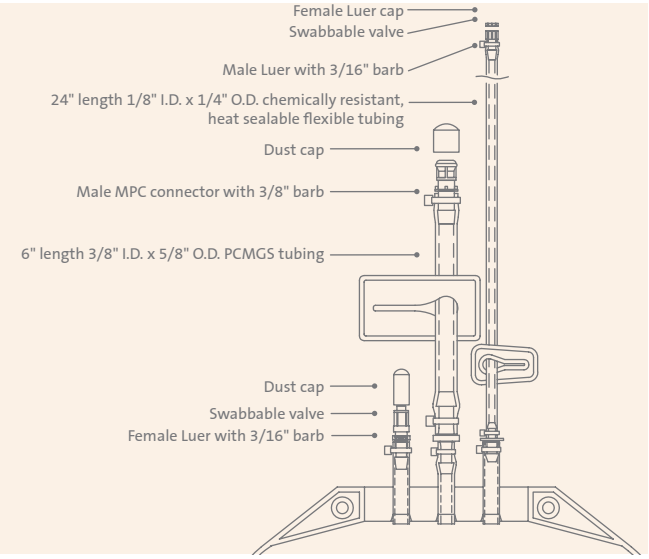
- High-quality barrier films
- Sterile
- Gas and moisture barriers to minimize transmission of oxygen, carbon dioxide and water vapor
- Universal connection systems
- Reduces costs associated with washing, sterilization, and SIP/CIP validations
- Reduces the risks associated with cross-contamination
- Minimal setup time
- Wide variety of standard configurations
- Easily integrated in automated systems

Industry Recognized Manufacturing Standards

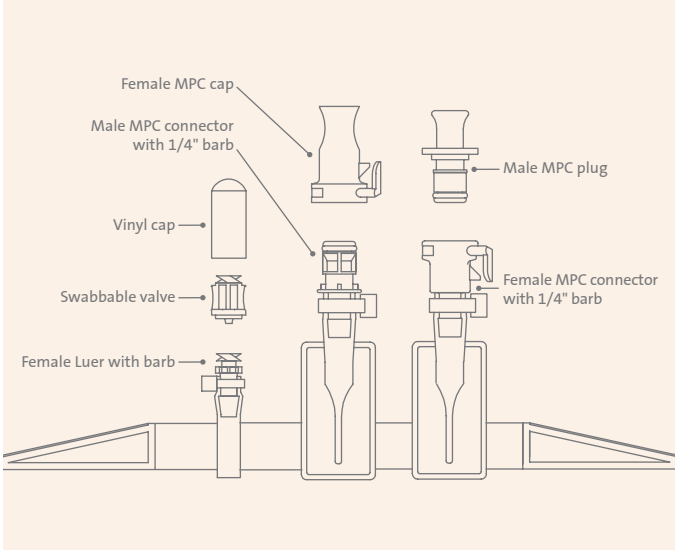
- cGMP and ISO 13485 manufacturing process
- Complete documentation and traceability
- Animal-free manufacturing process

COLLECTION CONTAINERS

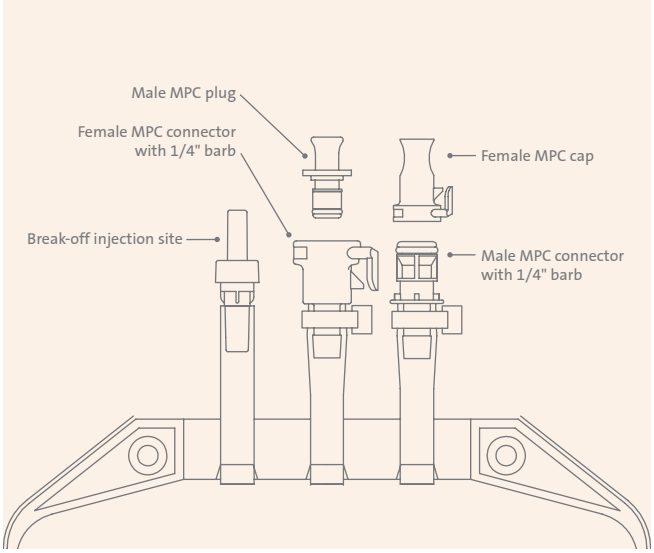
Corning® collection containers are available in 2D hanging configurations and multiple bag volumes with multiple connector configurations.



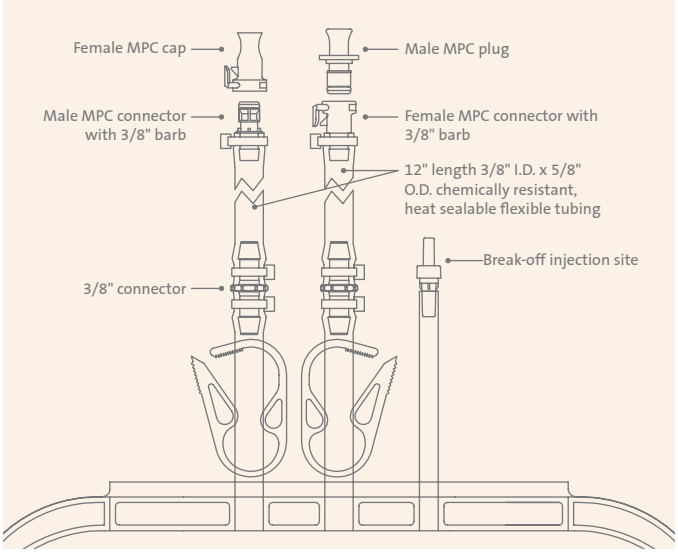
Cat. No.	Film Type	Size	Qty/Pk
91-200-01	EVA	1L	1
91-200-02	EVA	2L	1
91-200-05	EVA	5L	1
91-200-10	EVA	10L	1
91-200-20	EVA	20L	1



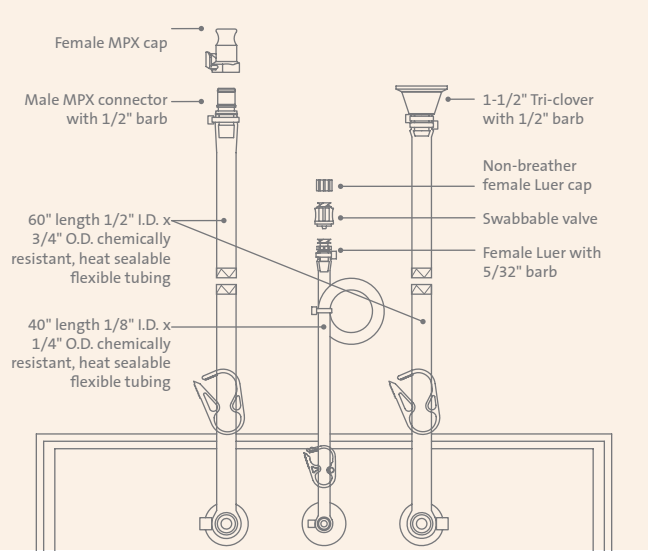
Cat. No.	Film Type	Size	Qty/Pk
91-200-36	EVA	10L	1
91-200-39	EVA	20L	1



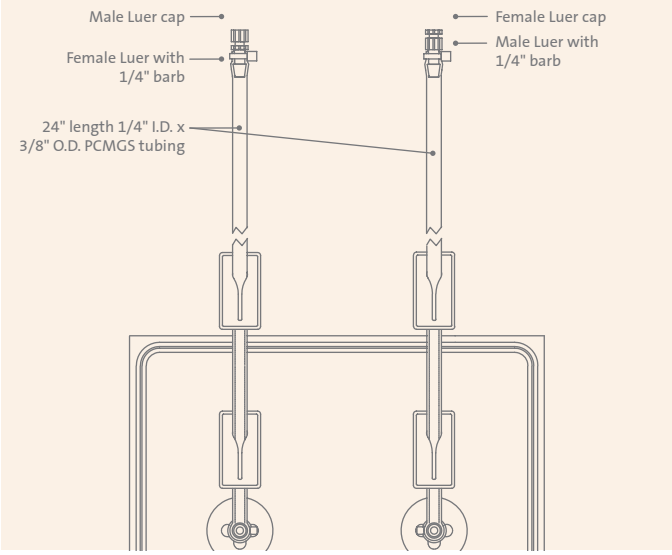
Cat. No.	Film Type	Size	Qty/Pk
91-200-41	EVA	500 mL	1
91-200-42	EVA	1L	1



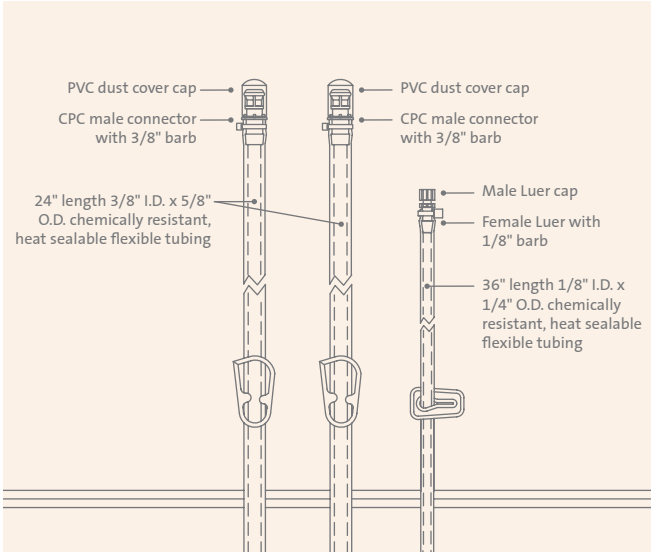
Cat. No.	Film Type	Size	Qty/Pk
91-200-43	EVA	5L	1
91-200-45	EVA	10L	1
91-200-47	EVA	20L	1
91-200-48	EVA	50L	1



Cat. No.	Film Type	Size	Qty/Pk
91-200-82	ULDPE	100L	1
91-200-83	ULDPE	200L	1



Cat. No.	Film Type	Size	Qty/Pk
91-002-MX	Metallocene	10L	1
91-001-MB	Metallocene	25L	1



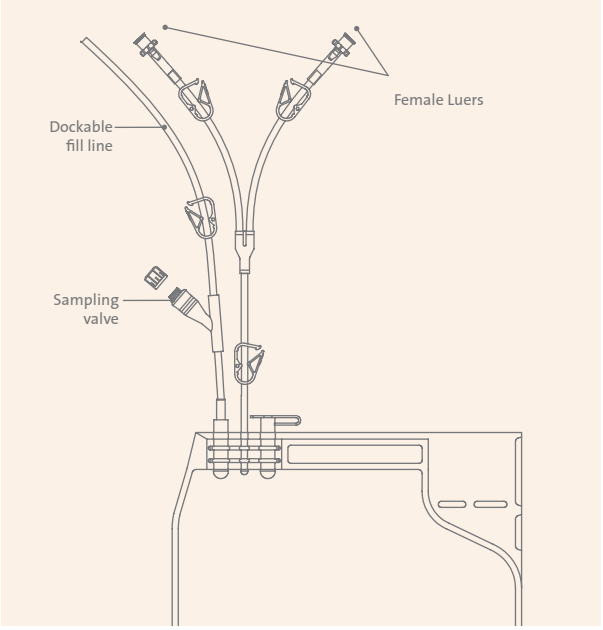
Cat. No.	Film Type	Size	Qty/Pk
91-100-30	Metallocene	50L	1
91-100-35	Metallocene	100L	1

CELL EXPANSION BAGS

Cell expansion bags are intended for the expansion and culture of non-adherent cells. The containers are made from single-web polyolefin, gas permeable film. The integrated tubing allows for functionally closed system filling, feeding, and sampling.

Features and Benefits

- Cell expansion observed with multiple cell models
- Gas permeable film
- Reusable sampling valve for in process testing
- Tubing for sterile weld connections
- Scalable, user friendly design



Biocompatibility Tests	Result	Test Protocol
USP Class VI	Pass	USP <88>
Toxicity	Pass	USP <87>
Heavy metals	<2 ppm	ISO 3826-1
Buffering capacity	1.22 mL	USP <661>
Non-volatile residue	8.6 mg	USP <661>
Residue on ignition (polyolefins)	<1 mg	ISO 3826-1
Acidity and alkalinity	Pass	ISO 3826-1
Oxidizable constituents	<1.5 mL	ISO 3826-1
Absorbance	<0.2 abs unit	ISO 3826-1
Reducing substances	0.34 mL	EP 3.1.14
Local effects after implantation	Pass	ISO 10993-6
Irritation and delayed-type sensitivity	Pass	ISO 10993-10
Systemic toxicity	Pass	ISO 10993-11

Physical Properties	Result	Test Protocol
O_2 transmission (cm^3/100 in^2/24 hrs) at (25°C; 0% RH)	153	ASTM D-3985
CO_2 transmission (cm^3/100 in^2/24 hrs) at (25°C; 0% RH)	1183	MOCON Test Method
Moisture vapor transmission (g/100 in^2/24 hrs)	0.94	ASTM D-1249
Transmittance (%)	83	ASTM D-1003
Tensile strength (psi)	3400/3700	ASTM D-638
Elastic modulus (E)	540/480	ASTM D-638

Cat. No.	Size	Fill Volume	Qty/Pk
91-200-84	500 mL	190 mL	1
91-200-85	1L	381 mL	1
91-200-86	3 L	633 mL	1
91-200-87	5L	1252 mL	1

CRYOPRESERVATION BAGS

Cryogenic storage containers are designed for storage, preservation, and transfer of cells.

Design Offers

- Unique bag film material remains flexible at ultra-low temperatures (-196°C).
- Proprietary membrane port design offers thinner walls for increased flexibility and attached cap minimizes membrane exposure during freezing
- Industry standard label pocket design offers ease-of-use and traceability in labeling

Features and Benefits

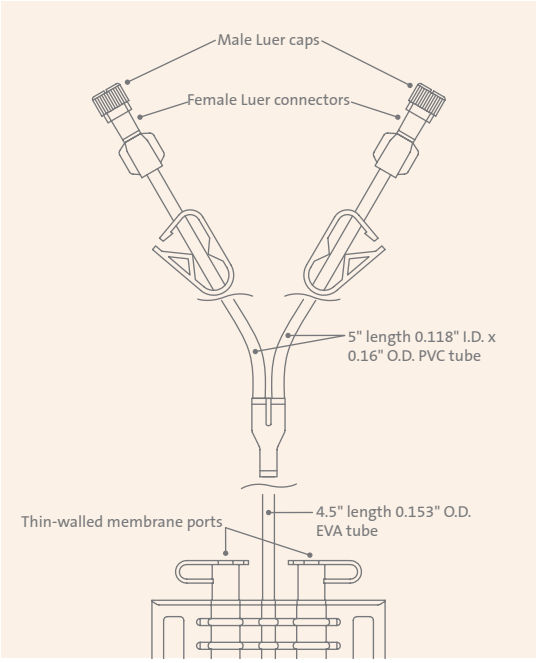
- Polyolefin film – Proprietary EVA blend specifically selected for its low temperature properties while maintaining flexibility and clarity when filled with liquid
- Membrane port – The attached cap snaps into place to protect the contents and minimizes membrane exposure during use
- Label pocket – Supports use of computer-generated labels; product information can be viewed quickly by simply opening the freezing cassette
- Integral fill tube – The unique manufacturing method used to secure the fill tube to the container body eliminates the need for PVC interfaces with the liquid nitrogen storage section of the container
- Interface/Connectors – Compatible with sterile connection technology and smart seal technology (Sebra® Model 1100 tube welder); fits in a variety of freezing cassette systems

Physical Integrity

The physical integrity of the containers were evaluated for their ability to withstand temperature variations experienced during routine storage of hematopoietic progenitor cell products. All containers passed the physical integrity tests performed, which included the initial pressure test and leak tests and the microbial challenge and dye immersion tests.

Cell Quality

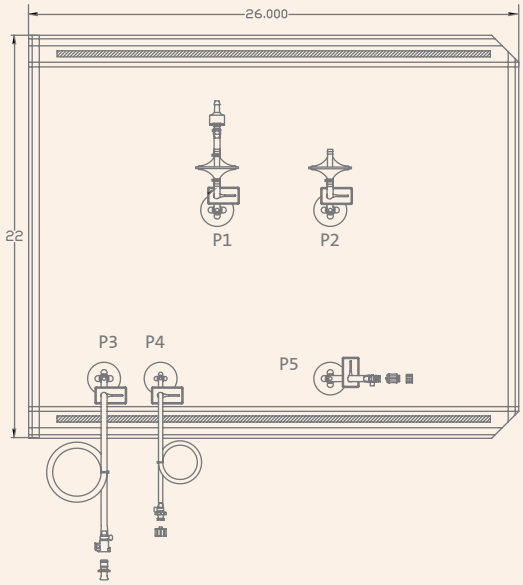
Cell quality was assessed on our cryogenic storage containers using diluted HPC with 10% DMSO. All containers met the acceptance requirement for MNC and CD34+ cell recovery of ≥70% relative to cell counts of the sample prior to cryopreservation. The average MNC and CD34+ cell recoveries were 81% and 84%, respectively. All containers met ≥ 1 CFU acceptance criteria with an average of 78% recovery.



Cat. No.	Size	Fill Volume	Qty/Pk
91-200-88	50 mL	10 - 20 mL	1
91-200-89	250 mL	30 - 70 mL	1
91-200-90	500 mL	55 - 100 mL	1
91-200-91	750 mL	80 - 190 mL	1

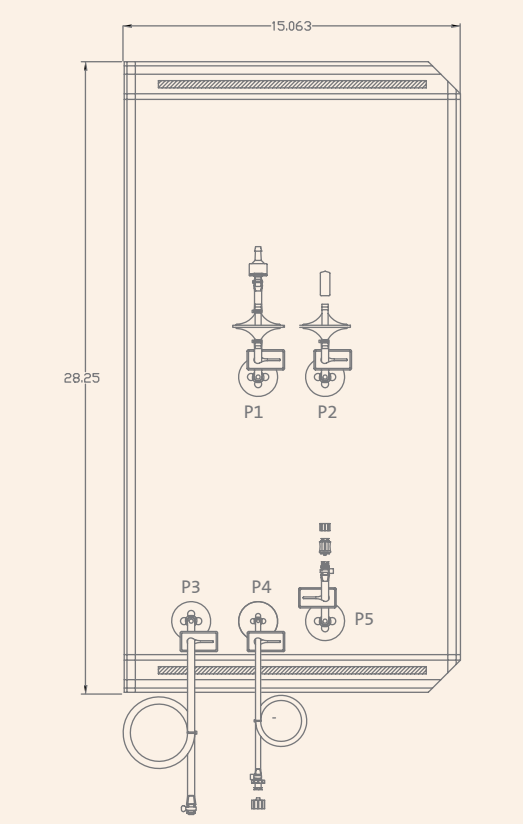
ROCKER CELL CULTURE BAGS

Rocker cell culture bags are designed for use with commercial rocking-motion bioreactor chambers. They feature ethylene vinyl acetate/ultra-low density polyethylene (ULDPE) 9101 film and stability bars on each side. This sterile single-use cell culture bag is ideal for basic research to large-scale biopharmaceutical manufacturing applications.



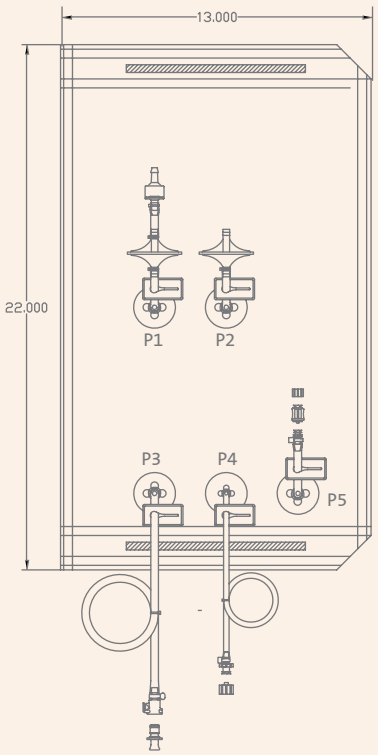
Cat. No.	Size	Qty/Pk
91-200-78	20L	1

P1	Check valve with 1/4" barb PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P2	PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P3	Female MPC connector with 1/4" barb Male MPC plug 40" length 1/4" I.D. x 7/16" O.D. chemically resistant, heat sealable flexible tube
P4	Female Luer with 1/4" barb Male Luer plug 40" length 1/8" I.D. x 1/4" O.D. chemically resistant, heat sealable flexible tube
P5	Female Luer with 1/4" barb Swabbable valve Male Luer plug without stem



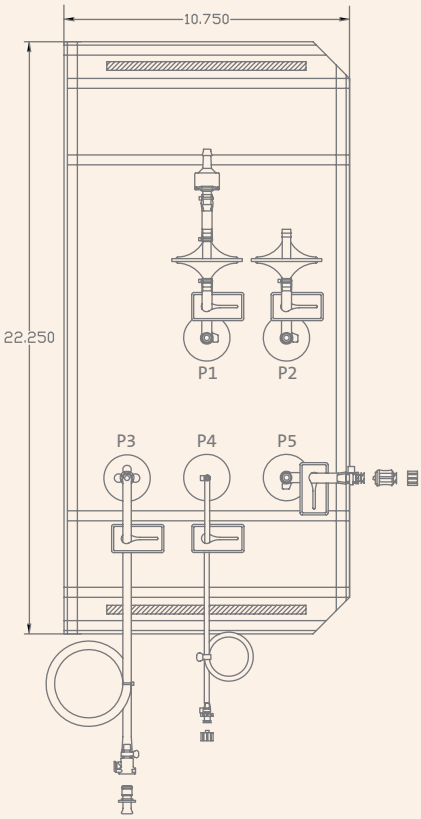
Cat. No.	Size	Qty/Pk
91-200-92	22L	1

P1	Check valve with 1/4" barb PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P2	PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P3	Plug with 1/4" barb 48" length 1/4" I.D. x 7/16" O.D. chemically resistant, heat sealable flexible tube
P4	Female Luer with 1/4" barb Male Luer plug 48" length 1/8" I.D. x 1/4" O.D. chemically resistant, heat sealable flexible tube
P5	Female Luer with 1/4" barb Swabbable valve Male Luer plug without stem



Cat. No.	Size	Qty/Pk
91-200-79	10L	1

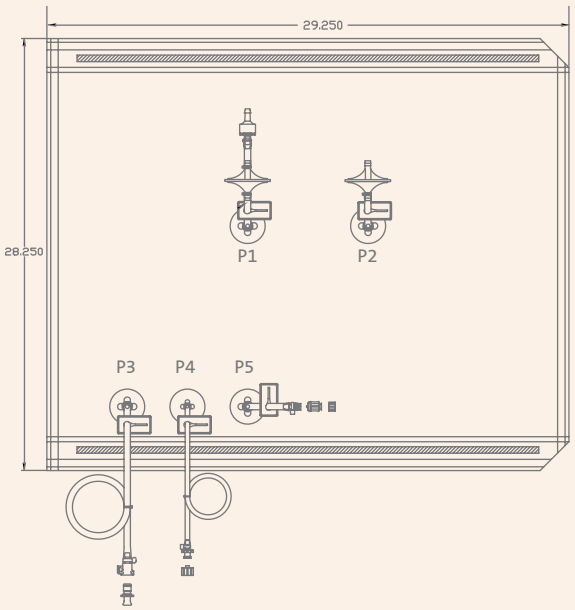
P1	Check valve with 1/4" barb PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P2	PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P3	Female MPC connector with 1/4" barb and plug 40" length 1/4" I.D. x 7/16" O.D. chemically resistant, heat sealable flexible tube
P4	Female Luer with 1/4" barb and plug 40" length 1/8" I.D. x 1/4" O.D. chemically resistant, heat sealable flexible tube
P5	Female Luer with 1/4" barb Swabbable valve Male Luer plug without stem



Cat. No.	Size	Qty/Pk
91-200-80	2L	1

P1	Check valve with 1/4" barb PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P2	PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P3	Female MPC connector with 1/4" barb Male MPC plug 40" length 1/4" I.D. x 7/16" O.D. chemically resistant, heat sealable flexible tube
P4	Female Luer with 1/4" barb Male Luer plug 40" length 1/8" I.D. x 1/4" O.D. chemically resistant, heat sealable flexible tube
P5	Female Luer with 1/4" barb Swabbable valve Male Luer plug without stem

ROCKER CELL CULTURE BAGS (CONTINUED)

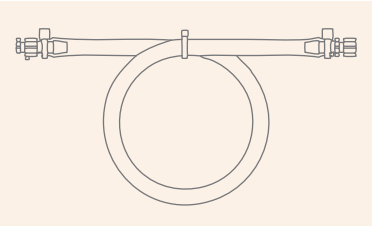


Cat. No.	Size	Qty/Pk
91-200-81	50L	1

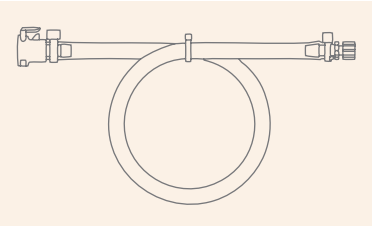
P1	Check valve with 1/4" barb PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P2	PVDF 8004022 filter 2" length 3/16" I.D. x 3/8" O.D. PCMGS tube
P3	Female MPC connector with 1/4" barb Male MPC plug 40" length 1/4" I.D. x 7/16" O.D. chemically resistant, heat sealable flexible tubing
P4	Female Luer with 1/4" barb Male Luer plug 40" length 1/8" I.D. x 1/4" O.D. chemically resistant, heat sealable flexible tubing
P5	Female Luer with 1/4" barb Swabbable valve Male Luer plug without stem

TUBING SETS

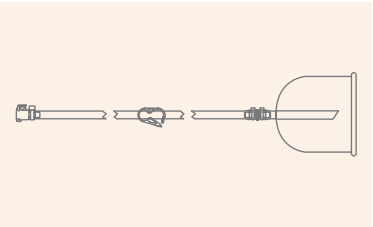
Optional tubing sets are available in combination with all single-use bag options.



Cat. No.	Description	Qty/Pk
91-700-00	36" length 1/4" I.D. clear, chemically resistant, heat sealable, flexible tubing Male Luer and female Luer cap Female Luer and male Luer cap	1



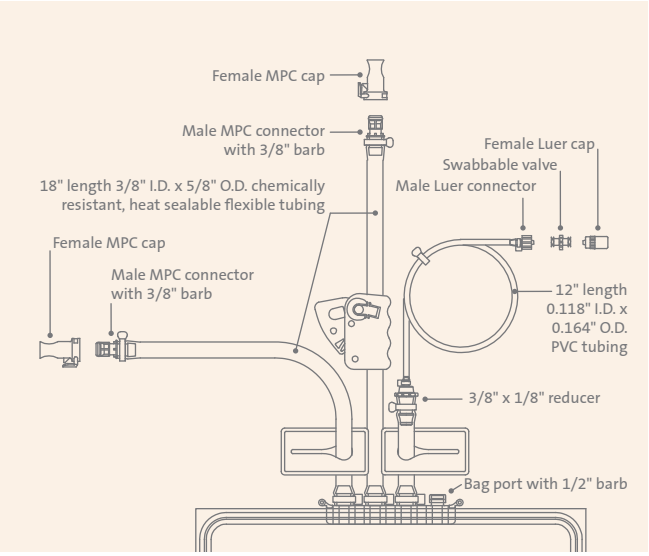
Cat. No.	Description	Qty/Pk
91-700-04	36" length 1/4" I.D. clear, chemically resistant, heat sealable, flexible tubing Female MPC connector Female Luer and male Luer cap	1



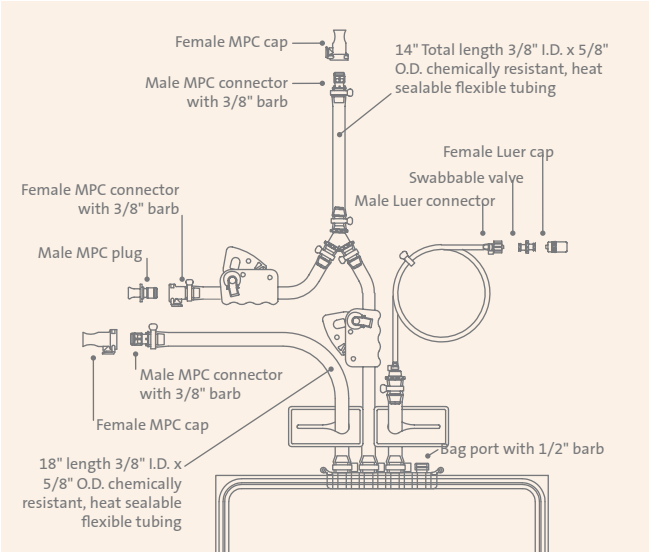
Cat. No.	Description	Qty/Pk
91-700-12	24" length 1/4" I.D. clear, chemically resistant, heat sealable, flexible tubing Female MPC connector with 1/4" barb Pinch clamp Filling bell	1

SINGLE-USE BAGS FOR CORNING® HYPER*STACK*® VESSELS

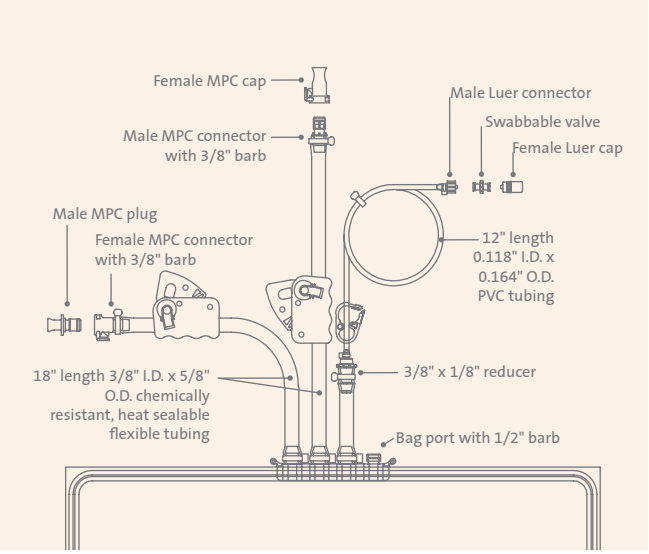
These single-use bags can be connected to tubing by tube welding or by using the pre-assembled multipurpose connectors. They can be used to add media, trypsin, or quenching substrates to culture cells in an entirely closed environment.



Cat. No.	Description	Film Type	Size	Qty/Pk
91-200-75	Trypsin bag	ULDPE	5L	1



Cat. No.	Description	Film Type	Size	Qty/Pk
91-200-76	Quench bag	ULDPE	5L	1



Cat. No.	Description	Film Type	Size	Qty/Pk
91-200-77	Media bag	ULDPE	20L	1

TANK LINERS

Corning's portfolio of sterile tank liners are designed to fit cylindrical tanks. Tank liners are manufactured with ultra-low density polyethylene (ULDPE) and are available in a range of sizes.

Features and Benefits

- Sterile, individually packaged
- Animal-free components
- Reduce costs associated with the cleaning and validation of tanks
- Reduce labor costs and increase turnaround time
- Reduce the risks associated with cross contamination
- Help extend the life of reusable tanks, resulting in lower capital expenditures
- Wide variety of sizes available

Gusseted Tank Liners (3D)

Cat. No.	Max. Volume	Diameter	Approx. Depth	Qty
91-300-15	50L	13"	27"	1
91-300-25	100L	18"	30"	1
91-300-35	200L	22"	36"	1

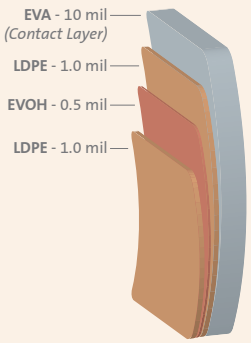
Non-gusseted Tank Liners (2D)

Cat. No.	Max. Volume	Diameter	Approx. Depth	Qty
91-300-20	130L	18"	30"	1
91-300-30	200L	22.5"	36"	1
91-300-80	1090L	42"	49"	1

FILM TYPES

Ethyl Vinyl Acetate (EVA) Film

Composition



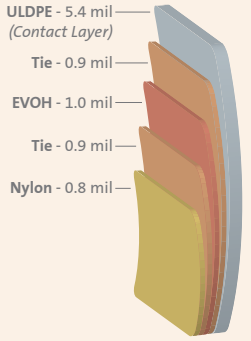
12.5 mil co-extrusion film—Collection bags.

Biocompatibility Tests	Result	Test Protocol
USP intracutaneous reactivity test	Pass	USP <88>
USP acute systemic injection test	Pass	USP <88>
USP intramuscular implantation test	Pass	USP <88>
Toxicity	Nontoxic	USP <87>
Hemolysis	Non-hemolytic	ISO 10993-4
Bacterial endotoxin	<0.015 EU/mL	USP <85>

Physical Properties	Result	Test Protocol
H_2O transmission (g/100 in^2/24 hrs)	0.011	ASTM F-1249
CO_2 transmission (cm^3/100 in^2/24 hrs)	0.58	MOCON Test Method
O_2 transmission (cm^3/100 in^2/24 hrs)	0.28	ASTM F-3985
Ultimate tensile	3100 psi	ASTM D-638
Ultimate elongation	>650%	ASTM D-638
100% modulus	1000 psi	ASTM D-638
Tear strength	550 lbs/in	ASTM D-1004
Low pressure brittleness	>-75°F	ASTM D-1290
Puncture resistance	22.4 lbs	FTMS 101 B

Metallocene Film

Composition



9.0 mil co-extruded blend of cross-linked polyethylene, EVOH, and Nylon—Collection bags.

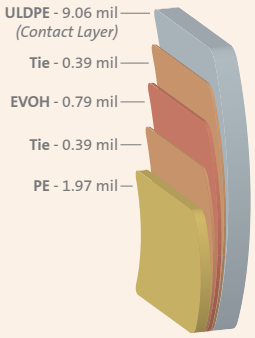
Biocompatibility Tests	Result	Test Protocol
Toxicity	Nontoxic	USP <87>
Bacterial endotoxin	<0.005 EU/mL	USP <85>
Hemolysis	Non-hemolytic	ISO 10993-4
Heavy metals	<1 ppm	ISO 3826-1; USP <661>
Buffering capacity	<1 mL	USP <661>
Non-volatile residue	<1 mg	USP <661>
Residue on ignition	<1 mg	ISO 3826-1; USP <661>
Appearance	Pass	--
Acidity and alkalinity	Pass	--
Absorbance	0.04 units	--
Oxidizable substance	<0.1 mL	--
Transparency	Pass	--

Physical Properties	Result	Test Protocol
H_2O transmission (g/m^2/24 hrs 23°C, 100% RH)	0.455	ASTM F-1249
CO_2 transmission (cm^3/m^2/24 hrs 23°C, 50% RH outside)	<1.0	ASTM F-2476
O_2 transmission rate (cm^3/m^2/24 hrs 23°C, 100% RH inside and 50% RH outside)	0.148	ASTM F-1927
Ultimate tensile strength	3094 psi	ASTM D-638
Elongation	416 (%)	ASTM D-638
Yield strength	1972 psi	--
Seam strength	18 pounds	--
Temperature range	-80°C to 60°C	--
Sterilization	SAL 10^{-6}	--

Ultra-Low Density Polyethylene (ULDPE)/Ethylene Vinyl Acetate (EVA) Film

Single-ply multilayer structure with inert PE fluid contact layer.
Film is animal-free—Rocker cell culture bags.

Composition

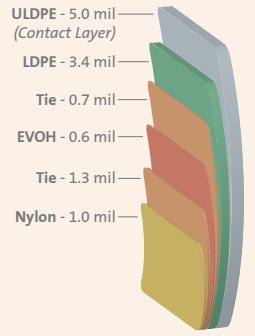


Physical Properties	Result	Test Protocol
Haze (%)	5	ASTM D-1003
Clarity (%)	98	ASTM D-1003
Transmittance (%)	93	ASTM D-1003
Tensile strength at break (Mpa)	14	ASTM D-882
Elongation at break (%)	280	ASTM D-882
Elastic modulus (Mpa)	370	ASTM D-882
Break at cold temperature (°C)	below -45°C	ISO 8570
Density (g/cm^3)	0.9	ASTM D-792
H_2O transmission rate $g/m^2/24$ hrs	0.4 (23°C)	ASTM F-1249
O_2 permeability $cm^3/m^2/24$ hrs	0.1 (23°C, 0% RH)	ASTM D-3985
CO_2 permeability $cm^3/m^2/24$ hrs	<0.2 (23°C, 0% RH)	MOCON Permatran C-IV

Ultra-Low Density Polyethylene (ULDPE) Film

Fluid contact layer is 5.0 mil, ultra-low density polyethylene. Outer film is 5-layer, 7 mil co-extrusion film—Bags for Corning® HYPER*Stack*® vessels, collection bags.

Composition



Biocompatibility Tests	Result	Test Protocol
USP intracutaneous reactivity test	Pass	USP <88>
USP acute systemic injection test	Pass	USP <88>
USP intramuscular implantation test	Pass	USP <88>
USP MEM elution method	Nontoxic	USP <87>
Physiochemical test for plastics	Pass	USP <661>

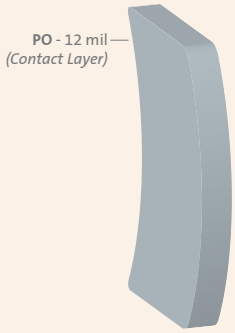
Physical Properties	Result	Test Protocol
H_2O transmission ($g/100\ in^2/24$ hrs)	0.017	ASTM F-1249
CO_2 transmission ($cm^3/100\ in^2/24$ hrs)	0.129	ASTM F-2476
O_2 transmission ($cm^3/100\ in^2/24$ hrs)	0.043	ASTM F-1927

	Average Force	Average MOE	Average Elongation	Test Protocol
Tensile strength	32.73 lbs	25110 psi	1080%	ASTM D 882-02
	Min Force	**Average Force**	**Max Force**	
Tear resistance	6.77 lbs	7.21 lbs	7.74 lbs	ASTM D1004-07
Puncture resistance	16.42 lbs	18.61 lbs	19.51 lbs	FTMS 101C

Polyolefin (PO) Film

Single-web, 12 mil polyolefin monolayer designed for extremely low temperatures—Cell expansion bags.

Composition

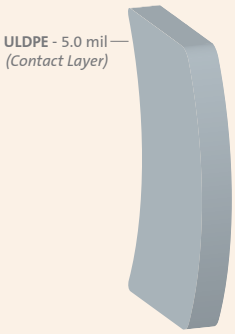


Biocompatibility Tests	Result	Test Protocol
USP Class VI	Pass	USP <88>
Toxicity	Nontoxic	USP <87>
Hemolysis	Non-hemolytic	ISO 10993-4
Heavy metals	Pass	ISO 3826-1; USP <661>
Buffering capacity	Pass	USP <661>
Non-volatile residue	Pass	USP <661>
Residue on ignition	Pass	ISO 3826-1; USP <661>
Local effects after implantation	Pass	ISO 10993-6
Irritation and delayed-type sensitivity	Pass	ISO 10993-10
Systemic toxicity	Pass	ISO 10993-11
Bacterial endotoxin	<20 EU/device	USP <85>

Physical Properties	Result	Test Protocol
H_2O transmission g/100 in^2/24 hrs at 25˚C	1.1	ASTM F1249
CO_2 transmission cm^3/100 in^2/24 hrs at 25˚C, 0% RH	1477	ASTM F2476
O_2 transmission cm^3/100 in^2/24 hrs at 25˚C, 0% RH	180	ASTM D3985
Tensile strength (Mpa)	17	ASTM D882
Elongation at break, MD/TD (%)	560/700	ASTM D882
Elastic modulus (Mpa)	17	ASTM D882
Break at cold temperature (˚C)	Below -80˚C	ISO 8570
Glass transition temperature (Tg)	-48˚C	DSC
Density (g/cm^3)	0.92	ASTM D792
Low temperature, (remains flexible)	-196˚C	--

Tank Liner Film

Composition



Biocompatibility Tests	Result	Test Protocol
USP intracutaneous reactivity	Pass	USP <88>
USP acute systemic injection	Pass	USP <88>
USP intramuscular implantation	Pass	USP <88>
Toxicity	Nontoxic	USP <87>
Physiochemical test for plastics	Pass	USP <661>

Physical Properties	Result	Test Protocol
H_2O transmission (g/100 in^2/24 hrs)	0.017	ASTM F-1249
CO_2 transmission (cm^3/100 in^2/24 hrs)	0.129	ASTM F-2476
O_2 transmission (cm^3/100 in^2/24 hrs)	0.043	ASTM F-1927

	Average MOE	Average Elongation	Test Protocol
Tensile strength	5756 psi	710%	ASTM D 882
	Average Force		
Impact strength	2.52 lbs	7.74 lbs	ASTM D 1709

Formulations

AMEM (Alpha Modification of Eagle's Medium)

Cat. No.	10-022	15-012	50-012
Description	Liquid, 1x	Liquid, 1x	Powder
Units	mg/L	mg/L	mg/L
Components			
Inorganic Salts			
$CaCl_2$ (anhydrous)	200.00	200.00	200.00
KCl	400.00	400.00	400.00
$MgSO_4$ (anhydrous)	97.70	97.70	97.70
NaCl	6,800.00	6,800.00	6,800.00
$NaH_2PO_4 \cdot H_2O$	140.00	140.00	140.00
$NaHCO_3$	2,200.00	2,200.00	--
Amino Acids			
L-Alanine	25.00	25.00	25.00
L-Arginine • HCl	126.40	126.40	126.40
L-Asparagine • H_2O	50.00	50.00	50.00
L-Aspartic acid	30.00	30.00	30.00
L-Cysteine • HCl • H_2O	100.00	100.00	100.00
L-Cystine • 2HCl	31.20	31.20	31.20
L-Glutamic acid	75.00	75.00	75.00
L-glutamine	292.00	--	292.00
Glycine	50.00	50.00	50.00
L-Histidine • HCl • H_2O	41.90	41.90	41.90
L-Isoleucine	52.50	52.50	52.50
L-Leucine	52.50	52.50	52.50
L-Lysine • HCl	72.50	72.50	72.50
L-Methionine	15.00	15.00	15.00
L-Phenylalanine	32.50	32.50	32.50
L-Proline	40.00	40.00	40.00
L-Serine	25.00	25.00	25.00
L-Threonine	47.60	47.60	47.60
L-Tryptophan	10.00	10.00	10.00
L-Tyrosine • 2Na • $2H_2O$	51.90	51.90	51.90
L-Valine	46.80	46.80	46.80
Vitamins			
Ascorbic acid	50.00	50.00	50.00
Biotin	0.10	0.10	0.10
D-Calcium pantothenate	1.00	1.00	1.00
Choline chloride	1.00	1.00	1.00
Folic acid	1.00	1.00	1.00
i-Inositol	2.00	2.00	2.00
Nicotinamide	1.00	1.00	1.00
Pyridoxine • HCl	1.00	1.00	1.00
Riboflavin	0.10	0.10	0.10
Thiamine • HCl	1.00	1.00	1.00
Vitamin B12	1.36	1.36	1.36

Cat. No.	10-022	15-012	50-012
Description	Liquid, 1x	Liquid, 1x	Powder
Units	mg/L	mg/L	mg/L
Other			
D-Glucose	1,000.00	1,000.00	1,000.00
Lipoic acid	0.20	0.20	0.20
Phenol red • Na	10.00	10.00	10.00
Sodium pyruvate	110.00	110.00	110.00
Nucleosides			
Thymidine	10.00	--	--
Adenosine	10.00	--	--
Cytidine	10.00	--	--
Guanosine	10.00	--	--
Uridine (anhydrous)	10.00	--	--
2'-Deoxyadenosine • H_2O	10.00	--	--
2'-Deoxycytidine • HCl	11.00	--	--
2'-Deoxyguanosine • H_2O	10.00	--	--
Add			
$NaHCO_3$			
Powder (g/L)	--	--	2.20
7.5% Solution (mL/L)	--	--	29.33
L-glutamine			
Powder (mg/L)	--	292.00	292.00
200 mM Solution (mL/L)	--	10.00	10.00

Antibiotic-Antimycotic Solution

Cat. No.	30-003	30-004	30-005
Description	Liquid	Liquid, 100x	Liquid
Units	g/L	U/L and mg/L	g/L
Components			
K Penicillin G	--	10,000,000 U/L	--
Dihydro-streptomycin • SO_4	--	0.01 mg/L (adjusted for potency)	--
Amphotericin B (solubilized w/sodium deoxycholate and sodium phosphate)	0.25	0.000025 mg/L (adjusted for potency)	--
NaCl	--	0.0085 mg/L	--
Gentamycin Sulfate	--	--	50

"--" indicates not present

Buffered Saline Solutions

Cat. No.	20-030	20-031	21-030	21-031	21-040	46-012	46-013	55-031
Description	Liquid, 10x	Liquid, 10x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 10x	Liquid, 10x	Powder
Units	g/L	g/L	g/L	g/L	g/L	g/L	g/L	g/L
Components								
Inorganic Salts								
$CaCl_2$ (anhydrous)	1.00	--	0.10	--	--	--	--	--
KCl	2.00	2.00	0.20	0.20	--	--	2.0	0.20
KH_2PO_4	2.00	2.00	0.20	0.20	0.144	--	2.40	0.20
$MgCl_2 \cdot 6H_2O$	1.00	--	0.10	--	--	--	--	--
NaCl	80.00	80.00	8.00	8.00	9.00	80.00	80.00	8.00
Na_2HPO_4 (anhydrous)	11.50	11.50	--	1.15	0.795	--	14.40	1.15
$Na_2HPO_4 \cdot 7H_2O$	--	--	2.1716	--	--	--	--	--
Organic Buffers								
Tris Ultrapure	--	--	--	--	--	24.2	--	--

CMRL 1066

Cat. No.	15-110
Description	Liquid, 1x
Units	mg/L
Components	
Inorganic Salts	
CaCl2 (anhydrous)	200
KCl	400
MgSO4 (anhydrous)	97.70
NaCl	6,800
$NaH2PO4 \cdot H_2O$	140
$NaHCO_3$	2,200
Amino Acids	
L-Alanine	25
L-Arginine • HCL	70
L-Aspartic acid	30
L-Cysteine • HCl • H_2O	260
L-Cystine • 2HCl	26
L-Glutamic acid	75
Glycine	50
L-Histidine • HCl • H_2O	20
Hydroxy-L-proline	10
L-Isoleucine	20
L-Leucine	60
L-Lysine • HCl	70
L-Methionine	15
L-Phenylalanine	25
L-Proline	40
L-Serine	25
L-Threonine	30
L-Tryptophan	10
L-Tyrosine • 2Na • $2H_2O$	58
L-Valine	25

Vitamins	
Biotin	0.01
Folic acid	0.01
Riboflavin	0.01
Ascorbic acid	50.00
D-Ca-Pantothenate	0.01
Choline Chloride	0.50
i-Inositol	0.05
Nicotinic acid	0.025
Nicotinamide	0.025
PABA	0.05
Pyridoxine • HCl	0.05
Thiamine • HCl	0.01
Thiamine pyrophosphate, Na	1.00
Other	
Thymidine	10.00
2'-Deoxyadenosine • H_2O	10.00
2'-Deoxycytidine • HCl	10.00
2'-Deoxyguanosine • H_2O	10.00
5-Methyl-2'-deoxycytidine	0.10
Uridine-5'-triphosphate • 3Na • hydrate	1.00
Cholesterol	0.20
Polysorbate 80	5.00
Coenzyme A Li_3 salt • $2H_2O$	2.50
b-NAD • hydrate	7.00
b-NADP • Na • $4H_2O$	1.00
FAD disodium salt	1.00
Dextrose	1000
Glutathione (reduced)	10.00
Sodium acetate	50.00
Sodium glucuronate • H_2O	4.20
Add	
L-glutamine Powder (mg/L) 200 mM Solution (mL/L)	 100.00 3.42

"--" indicates not present

DMEM (Dulbecco's Modification of Eagle's Medium)

Cat. No.	10-013	10-014	10-017	10-101	10-102	15-013	15-017	15-018	17-204
Description	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Components									
Inorganic Salts									
$CaCl_2$ (anhydrous)	200	200	200	200	200	200	200	200	200
$Fe(NO_3)_3 \cdot 9H_2O$	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
KCl	400	400	400	400	400	400	400	400	400
$MgSO_4$ (anhydrous)	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
NaCl	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400
$NaH_2PO_4 \cdot H_2O$	125	125	125	125	125	125	125	125	125
$NaHCO_3$	3,700	3,700	3,700	3,700	3,700	3,700	3,700	3,700	3,700
Amino Acids									
L-Arginine • HCl	84	84	84	84	84	84	84	84.00	84.00
L-Cystine • 2HCl	62.57	62.57	62.57	62.57	62.57	62.57	62.57	62.57	--
L-Aianyi-L-glutamine	--	--	--	869	869	--	--	--	--
L-glutamine	584	584	584	--	--	--	--	--	--
Glycine	30	30	30	30	30	30	30	30.00	30.00
L-Histidine •HCl • H_2O	42	42	42	42	42	42	42	42.00	42.00
L-Isoleucine	104.8	104.8	104.8	104.8	104.8	104.8	104.8	104.80	104.80
L-Leucine	104.8	104.8	104.8	104.8	104.8	104.8	104.8	104.80	104.80
L-Lysine • HCl	146.2	146.2	146.2	146.2	146.2	146.2	146.2	146.20	146.20
L-Methionine	30	30	30	30	30	30	30	30.00	--
L-Phenylalanine	66	66	66	66	66	66	66	66.00	66.00
L-Serine	42	42	42	42	42	42	42	42.00	42.00
L-Threonine	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.20	95.20
L-Tryptophan	16	16	16	16	16	16	16	16.00	16.00
L-Tyrosine • 2Na • $2H_2O$	103.79	103.79	103.79	103.79	103.79	103.79	103.79	103.79	103.79
L-Valine	94	94	94	94	94	94	94	94.00	94.00
Vitamins									
D-Calcium pantothenate	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Choline chloride	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Folic acid	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
i-Inositol	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20	7.20
Nicotinamide	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Pyridoxine • HCl	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Riboflavin	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Thiamine • HCl	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Other									
D-Glucose	4,500.00	1,000.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00
Phenol red • Na	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Sodium pyruvate	110.00	110.00	--	110.00	--	110.00	--	110.00	110.00
HEPES	--	--	--	--	--	--	--	5,958.00	--
Add									
L-glutamine									
Powder (mg/L)	--	--	--	--	--	584.00	584.00	584.00	584.00
200 mM Solution (mL/L)	--	--	--	--	--	20.00	20.00	20.00	20.00

"--" indicates not present

DMEM (Dulbecco's Modification of Eagle's Medium)

Cat. No.	17-205	17-206	17-207	50-003	50-013	90-013	90-113
Description	Liquid, 1x	Liquid, 1x	Liquid, 1x	Powder	Powder	Powder	Powder
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Components							
Inorganic Salts							
$CaCl_2$ (anhydrous)	200.00	200.00	200.00	200.00	200.00	200.00	200.00
$Fe(NO_3)_3 \cdot 9H_2O$	0.10	0.10	0.10	0.10	0.10	0.10	0.10
KCl	400.00	400.00	400.00	400.00	400.00	400.00	400.00
$MgSO_4$ (anhydrous)	97.70	97.70	97.70	97.70	97.70	97.70	97.70
NaCl	6,400.00	6,400.00	6,400.00	6,400.00	6,400.00	6,400.00	6,400.00
$NaH_2PO_4 \cdot H_2O$	125.00	--	125.00	125.00	125.00	125.00	125.00
$NaHCO_3$	3,700.00	3,700.00	3,700.00	--	--	--	--
Amino Acids							
L-Arginine • HCl	84.00	84.00	84.00	84.00	84.00	84.00	84.00
L-Cystine • 2HCl	62.57	62.57	62.57	62.57	62.57	62.57	62.57
L-glutamine	--	--	--	584.00	584.00	--	--
Glycine	30.00	30.00	30.00	30.00	30.00	30.00	30.00
L-Histidine •HCl • H_2O	42.00	42.00	42.00	42.00	42.00	42.00	42.00
L-Isoleucine	104.80	104.80	104.80	104.80	104.80	104.80	104.80
L-Leucine	104.80	104.80	104.80	104.80	104.80	104.80	104.80
L-Lysine • HCl	146.20	146.20	146.20	146.20	146.20	146.20	146.20
L-Methionine	30.00	30.00	30.00	30.00	30.00	30.00	30.00
L-Phenylalanine	66.00	66.00	66.00	66.00	66.00	66.00	66.00
L-Serine	42.00	42.00	42.00	42.00	42.00	42.00	42.00
L-Threonine	95.20	95.20	95.20	95.20	95.20	95.20	95.20
L-Tryptophan	16.00	16.00	16.00	16.00	16.00	16.00	16.00
L-Tyrosine • 2Na • $2H_2O$	103.79	103.79	103.79	103.79	103.79	103.79	103.79
L-Valine	94.00	94.00	94.00	94.00	94.00	94.00	94.00
Vitamins							
D-Calcium pantothenate	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Choline chloride	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Folic acid	4.00	4.00	4.00	4.00	4.00	4.00	4.00
i-Inositol	7.20	7.20	7.20	7.20	7.20	7.20	7.20
Nicotinamide	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Pyridoxine • HCl	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Riboflavin	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Thiamine • HCl	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Other							
D-Glucose	4,500.00	4,500.00	--	4,500.00	4,500.00	4,500.00	--
Phenol red • Na	--	15.00	15.00	15.00	15.00	--	--
Sodium pyruvate	110.00	110.00	--	110.00	--	--	--
HEPES	--	--	--	--	--	--	--
Add							
$NaHCO_3$ Powder (g/L) 7.5% Solution (mL/L)	 -- --	 -- --	 -- --	 3.70 49.40	 3.70 49.40	 -- --	 3.70 49.40
L-glutamine Powder (mg/L) 200 mM Solution (mL/L)	 584.00 20.00	 584.00 20.00	 584.00 20.00	 -- --	 -- --	 -- --	 584.00 20.00

"--" indicates not present

DMEM/Ham's F-12 50/50 Mix

Cat. No.	10-090	10-092	10-103	16-405	90-090	90-091
Description	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Powder	Powder
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Components						
Inorganic Salts						
$CaCl_2$ (anhydrous)	116.65	116.65	116.65	116.65	116.65	116.65
$FeSO_4 \cdot 7H_2O$	0.417	0.417	0.417	0.417	0.417	0.417
$Fe(NO_3)_3 \cdot 9H_2O$	0.05	0.05	0.05	0.05	0.05	0.05
KCl	311.8	311.8	311.8	311.8	311.8	311.8
$CuSO_4$ (anhydrous)	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
$MgSO_4$ (anhydrous)	84.95	84.95	84.95	84.95	84.95	84.95
NaCl	7,000	7,000	7,000	7,000	7,000	7,000
$NaH_2PO_4 \cdot H_2O$	62.5	62.5	62.5	62.5	62.5	62.5
Na_2HPO_4 (anhydrous)	71	71	71	71	71	71
$NaHCO_3$	2,438	2,438	2,438	2,438	--	--
$ZnSO_4 \cdot 7H_2O$	0.4315	0.4315	0.4315	0.4315	0.4315	0.4315
Amino Acids						
L-Alanine	4.45	4.45	4.45	4.45	4.45	4.45
L-Arginine • HCl	147.5	147.5	147.5	147.5	147.5	147.5
L-Asparagine • H_2O	7.5	7.5	7.5	7.5	7.5	7.5
L-Aspartic acid	6.65	6.65	6.65	6.65	6.65	6.65
L-Cysteine • HCl • H_2O	17.56	17.56	17.56	17.56	17.56	17.56
L-Cystine • 2HCl	31.285	31.285	31.285	31.285	31.285	31.285
L-Glutamic acid	7.35	7.35	7.35	7.35	7.35	7.35
L-Alanyl-L-glutamine	--	--	543	--	--	--
L-glutamine	365.1	365.1	--	365.1	--	365.1
Glycine	18.75	18.75	18.75	18.75	18.75	18.75
L-Histidine • HCl • H_2O	31.48	31.48	31.48	31.48	31.48	31.48
L-Isoleucine	54.37	54.37	54.37	54.37	54.37	54.37
L-Leucine	58.95	58.95	58.95	58.95	58.95	58.95
L-Lysine • HCl	91.35	91.35	91.35	91.35	91.35	91.35
L-Methionine	17.24	17.24	17.24	17.24	17.24	17.24
L-Phenylalanine	35.48	35.48	35.48	35.48	35.48	35.48
L-Proline	17.25	17.25	17.25	17.25	17.25	17.25
L-Serine	26.25	26.25	26.25	26.25	26.25	26.25
L-Threonine	53.55	53.55	53.55	53.55	53.55	53.55
L-Tryptophan	9.02	9.02	9.02	9.02	9.02	9.02
L-Tyrosine • 2Na • $2H_2O$	55.815	55.815	55.815	55.815	55.815	55.815
L-Valine	52.85	52.85	52.85	52.85	52.85	52.85
Vitamins						
Biotin	0.00365	0.00365	0.00365	0.00365	0.00365	0.00365
D-Ca-Pantothenate	2.24	2.24	2.24	2.24	2.24	2.24
Choline chloride	8.98	8.98	8.98	8.98	8.98	8.98
Folic acid	2.65	2.65	2.65	2.65	2.65	2.65
i-Inositol	12.61	12.61	12.61	12.61	12.61	12.61
Nicotinamide	2.0185	2.0185	2.0185	2.0185	2.0185	2.0185
Pyridoxine • HCl	2.031	2.031	2.031	2.031	2.031	2.031
Riboflavin	0.219	0.219	0.219	0.219	0.219	0.219
Thiamine • HCl	2.17	2.17	2.17	2.17	2.17	2.17
Vitamin B12	0.68	0.68	0.68	0.68	0.68	0.68

Cat. No.	10-090	10-092	10-103	16-405	90-090	90-091
Description	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Powder	Powder
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Other						
Dextrose	3,151	3,151	3,151	3,151	3,151	3,151
Hypoxanthine, sodium	2.385	2.385	2.385	2.385	2.385	2.385
DL-Thioctic (lipoic) acid	0.105	0.105	0.105	0.105	0.105	0.105
Methyl lineoleate	0.044	0.044	0.044	0.044	0.044	0.044
Phenol red, sodium	8.1	8.1	8.1	--	--	8.1
Putrescine*2HCl	0.08	0.08	0.08	0.08	0.08	0.08
Sodium pyruvate	110	110	110	110	110	110
Thymidine	0.365	0.365	0.365	0.365	0.365	0.365
HEPES	--	3574.8	--	--	--	--
Add						
$NaHCO_3$ Powder (g/L)	--	--	--	--	2.438	2.438
7.5% Solution (mL/L)	--	--	--	--	32.50	32.50
L-glutamine Powder (mg/L)	--	--	--	--	365.10	365.10
200 mM Solution (mL/L)	--	--	--	--	12.50	12.50

"--" indicates not present

F-12K Nutrient Mixture (Kaighn's Modification)

Cat. No.	10-025
Description	Liquid, 1x
Units	mg/L

Components	
Inorganic Salts	
$CaCl_2$ (anhydrous)	102.00
$CuSO_4 \cdot 5H_2O$	0.002
$Fe(NO_3)_3 \cdot 9H_2O$	--
$FeSO_4 \cdot 7H_2O$	0.800
KCl	285.00
KH_2PO_4	59.00
$MgCl_2$ (anhydrous)	49.70
$MgSO_4$ (anhydrous)	192.00
NaCl	7,530.00
NaH_2PO_4 (anhydrous)	--
Na_2HPO_4 (anhydrous)	115.50
$NaHCO_3$	2,500.00
$ZnSO_4 \cdot 7H_2O$	0.144
Amino Acids	
L-Alanine	18.00
L-Arginine • HCl	422.00
L-Asparagine • H_2O	30.00
L-Aspartic acid	26.60
L-Cysteine • HCl • H_2O	70.00
L-Cystine • 2HCl	--
L-Glutamic acid	29.00
L-glutamine	292.00
Glycine	15.00
L-Histidine • HCl • H_2O	45.80
L-Isoleucine	7.88
L-Leucine	26.20
L-Lysine • HCl	73.00
L-Methionine	8.96
L-Phenylalanine	9.92
L-Proline	69.00
L-Serine	21.00
L-Threonine	23.00
L-Tryptophan	4.10
L-Tyrosine • 2Na • $2H_2O$	13.50
L-Valine	23.00

Cat. No.	10-025
Description	Liquid, 1x
Units	mg/L

Vitamins	
Biotin	0.070
D-Calcium pantothenate	0.50
Choline chloride	14.00
Folic acid	1.30
i-Inositol	18.00
Nicotinamide	0.037
Pyridoxine • HCl	0.060
Riboflavin	0.040
Thiamine • HCl	0.30
Vitamin B_{12}	1.40
Other	
D-Glucose	1,260.00
HEPES	--
Hypoxanthine, Na	4.00
Lipoic acid	0.21
Methyl lineoleate	--
Phenol red • Na	3.00
Putrescine • 2HCl	0.32
Sodium pyruvate	220.00
Thymidine	0.70

Corning® glutagro™ Supplement and L-glutamine

Cat. No.	25-015	25-005
Description	Liquid, 100x	Liquid, 100x
Units	g/L	g/L

Components		
L-Alanyl-L-glutamine	43.44	--
L-glutamine	--	29.20
NaCl	8.5	8.5

"--" indicates not present

Grace's Insect Basal Medium (Vaughn Modification) / Hink's TNM-FH Medium (Supplemented Grace's Medium)

Cat. No.	13-100	13-200
Description	Liquid, 1x	Liquid, 1x
Units	mg/L	mg/L
Components		
Inorganic Salts		
$CaCl_2$ (anhydrous)	750.00	750.00
KCl	2,220.00	3,720.00
$MgCl_2$ (anhydrous)	1,068.00	1,068.00
$MgSO_4$ (anhydrous)	1,358.00	1,358.00
$NaH_2PO_4 \cdot H_2O$	1,008.00	1,008.00
$NaHCO_3$	350.00	350.00
Amino Acids		
ß-Alanine	200.00	200.00
L-Alanine	225.00	225.00
L-Arginine • HCl	700.00	700.00
L-Asparagine • H_2O	350.00	350.00
L-Aspartic acid	350.00	350.00
L-Cystine • 2HCl	25.00	25.00
L-Glutamic acid	600.00	600.00
L-glutamine	600.00	600.00
Glycine	650.00	650.00
L-Histidine	2,500.00	2,500.00
L-Isoleucine	50.00	50.00
L-Leucine	75.00	75.00
L-Lysine • HCl	625.00	625.00
L-Methionine	50.00	50.00
L-Phenylalanine	150.00	150.00
L-Proline	350.00	350.00
DL-Serine	1,100.00	1,100.00
L-Threonine	175.00	175.00
L-Tryptophan	100.00	100.00
L-Tyrosine	50.00	50.00
L-Valine	100.00	100.00
Vitamins		
Biotin	0.01	0.01
D-Calcium pantothenate	0.02	0.02
Choline chloride	0.20	0.20
Folic acid	0.02	0.02
i-Inositol	0.02	0.02
Nicotinic acid	0.02	0.02
Para-Aminobenzoic acid	0.02	0.02
Pyridoxine • HCl	0.02	0.02
Riboflavin	0.02	0.02
Thiamine • HCl	0.02	0.02

Cat. No.	13-100	13-200
Description	Liquid, 1x	Liquid, 1x
Units	mg/L	mg/L
Other		
A-Ketoglutaric acid	370.00	370.00
D-Glucose	700.00	700.00
D-Fructose	400.00	400.00
Fumaric acid	55.00	55.00
L-Malic acid	670.00	670.00
Succinic acid	60.00	60.00
Sucrose	26,680.00	26,680.00
Lactalbumin hydrolysate	3,333.00	--
UF yeast extract	3,333.00	--

"--" indicates not present.

Ham's F-10 Medium

Cat. No.	10-070
Description	Liquid, 1x
Units	mg/L

Components	
Inorganic Salts	
$CaCl_2$ (anhydrous)	33.30
$CuSO_4$ (anhydrous)	0.0016
$FeSO_4 \cdot 7H_2O$	0.834
KCl	285.00
KH_2PO_4	83.00
$MgSO_4$ (anhydrous)	74.60
NaCl	7,400.00
Na_2HPO_4 (anhydrous)	153.70
$NaHCO_3$	1,200.00
$ZnSO_4 \cdot 7H_2O$	0.0288
Amino Acids	
L-Alanine	9.00
L-Arginine • HCl	211.00
L-Asparagine • H_2O	15.00
L-Aspartic acid	13.00
L-Cysteine • HCl • H_2O	35.10
L-Glutamic acid	14.70
L-glutamine	146.20
Glycine	7.50
L-Histidine • HCl • H_2O	23.00
L-Isoleucine	2.60
L-Leucine	13.00
L-Lysine • HCl	29.00
L-Methionine	4.48
L-Phenylalanine	5.00
L-Proline	11.50
L-Serine	10.50
L-Threonine	3.57
L-Tryptophan	0.60
L-Tyrosine • 2Na • $2H_2O$	2.61
L-Valine	3.50
Vitamins	
Biotin	0.024
D-Calcium pantothenate	0.715
Choline chloride	0.698
Folic acid	1.32
i-Inositol	0.541
Nicotinamide	0.615
Pyridoxine • HCl	0.206
Riboflavin	0.376
Thiamine • HCl	1.00
Vitamin B_{12}	1.36

Cat. No.	10-070
Description	Liquid, 1x
Units	mg/L

Other	
D-Glucose	1,100.00
Hypoxanthine, Na	4.77
DL-Thioctic (lipoic) acid	0.20
Phenol red • Na	1.20
Sodium pyruvate	110.00
Thymidine	0.73

Ham's F-12 Medium

Cat. No.	10-080	50-040
Description	Liquid, 1x	Powder
Units	mg/L	mg/L
Components		
Inorganic Salts		
$CaCl_2$ (anhydrous)	33.30	33.30
$CuSO_4$ (anhydrous)	0.0016	0.0016
$FeSO_4 \cdot 7H_2O$	0.834	0.834
KCl	223.60	223.60
$MgSO_4$ (anhydrous)	72.20	72.20
NaCl	7,600.00	7,600.00
Na_2HPO_4 (anhydrous)	142.00	142.00
$NaHCO_3$	1,176.00	--
$ZnSO_4 \cdot 7H_2O$	0.863	0.863
Amino Acids		
L-Alanine	8.9	8.9
L-Arginine • HCl	211.00	211.00
L-Asparagine • H_2O	15.00	15.00
L-Aspartic acid	13.30	13.30
L-Cysteine • HCl • H_2O	35.12	35.12
L-Glutamic acid	14.70	14.70
L-glutamine	146.20	146.20
Glycine	7.50	7.50
L-Histidine • HCl • H_2O	20.96	20.96
L-Isoleucine	3.94	3.94
L-Leucine	13.10	13.10
L-Lysine • HCl	36.50	36.50
L-Methionine	4.48	4.48
L-Phenylalanine	4.96	4.96
L-Proline	34.50	34.50
L-Serine	10.50	10.50
L-Threonine	11.90	11.90
L-Tryptophan	2.04	2.04
L-Tyrosine • 2Na • $2H_2O$	7.84	7.84
L-Valine	11.70	11.70
Vitamins		
Nicotinamide	0.037	0.037
Pyridoxine • HCl	0.062	0.062
Riboflavin	0.038	0.038
Thiamine • HCl	0.34	0.34
Vitamin B_{12}	1.36	1.36

Cat. No.	10-080	50-040
Description	Liquid, 1x	Powder
Units	mg/L	mg/L
Other		
D-Glucose	1,802.00	1,802.00
Hypoxanthine, Na	4.77	4.77
DL-Thioctic (lipoic) acid	0.21	0.21
Methyl lineoleate	0.088	0.088
Phenol red • Na	1.20	1.20
Putrescine • 2HCl	0.16	0.16
Sodium pyruvate	110.00	110.00
Thymidine	0.73	0.73
Add		
$NaHCO_3$ Powder (g/L) 7.5% Solution (mL/L)	 -- --	 1.176 15.70

HAT (Hypoxanthine, Aminopterin, Thymidine)/HT (Hypoxanthine, Thymidine)

Cat. No.	25-046	25-047
Description	HAT Liquid, 50x	HT Liquid, 50x
Units	mg/L	mg/L
Components		
Aminopterin	8.81	--
Hypoxanthine • Na	910.70	910.70
Thymidine	193.80	193.80

HEPES

Cat. No.	25-060
Description	Liquid, 1M
Units	g/L
Components	
HEPES	238.3

"--" indicates not present

HBSS (Hanks' Balanced Salt Solutions)

Cat. No.	20-021	20-023	21-020	21-021	21-022	21-023	55-022
Description	Liquid, 10x	Liquid, 10x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Powder
Units	g/L	g/L	g/L	g/L	g/L	g/L	g/L
Components							
Inorganic Salts							
$CaCl_2$ (anhydrous)	--	1.4	0.14	--	--	0.14	--
KCl	4.00	4.00	0.40	0.40	0.40	0.40	0.40
KH_2PO_4	0.60	0.60	0.06	0.06	0.06	0.06	0.06
$MgSO_4$ (anhydrous)	--	0.977	0.0977	--	--	0.0977	--
NaCl	80.00	80.00	8.00	8.00	8.00	8.00	8.00
Na_2HPO_4 (anhydrous)	0.477	0.477	0.0477	0.0477	0.0477	0.0477	0.0477
$NaHCO_3$	--	--	0.35	0.35	0.35	0.35	--
Other							
D-Glucose	10.00	10.00	1.00	1.00	1.00	1.00	1.00
Phenol red • Na	0.10	--	0.01	0.01	--	--	--
Add							
$NaHCO_3$ Powder (g/L)	0.35	--	--	--	--	--	0.35
7.5% Solution (mL/L)	4.67	--	--	--	--	--	4.67

Improved MEM (Richter's Modification)

Cat. No.	10-024	10-026
Description	Liquid, 1x	Liquid, 1x
Units	mg/L	mg/L
Components		
Inorganic Salts		
$CaCl_2$ (anhydrous)	200.00	200.00
$FeCl_3 \cdot 6H_2O$	0.54	0.54
KCl	400.00	400.00
$MgCl_2 \cdot 6H_2O$	183.00	183.00
$MgSO_4 \cdot 7H_2O$	25.00	25.00
NaCl	6,800.00	6,800.00
$NaH_2PO_4 \cdot H_2O$	150.00	150.00
$NaHCO_3$	2,200.00	2,200.00
$ZnSO_4 \cdot 7H_2O$	0.14	0.14
Amino Acids		
L-Arginine • HCl	127.00	127.00
L-Asparagine • H_2O	60.00	60.00
L-Cystine • 2HCl	31.28	31.28
L-glutamine	292.00	292.00
L-Histidine • HCl • H_2O	42.00	42.00
L-Isoleucine	52.00	52.00
L-Leucine	131.20	131.20
L-Lysine • HCl	72.60	72.60
L-Methionine	15.00	15.00

Components (continued)	(10-024)	(10-026)
L-Phenylalanine	32.00	32.00
L-Serine	42.00	42.00
L-Threonine	48.00	48.00
L-Tryptophan	10.00	10.00
L-Tyrosine • 2Na • $2H_2O$	51.89	51.89
L-Valine	46.00	46.00
Vitamins		
Biotin	0.10	0.10
D-Calcium pantothenate	1.00	1.00
Choline chloride	56.00	56.00
Folic acid	2.20	2.20
i-Inositol	36.00	36.00
Lineoleic acid	0.08	0.08
DL-Thioctic (lipoic) acid	0.20	0.20
Nicotinamide	1.00	1.00
Pyridoxine • HCl	1.00	1.00
Riboflavin	0.10	0.10
Thiamine • HCl	1.00	1.00
Vitamin B_{12}	1.36	1.36
Other		
D-Glucose	2,000.00	2,000.00
Phenol red • Na	10.00	--
Putrescine • 2HCl	0.16	0.16
Sodium pyruvate	110.00	110.00

"--" indicates not present.

IMDM (Iscove's Modification of DMEM)

Cat. No.	10-016	15-016	50-016
Description	Liquid, 1x	Liquid, 1x	Powder
Units	mg/L	mg/L	mg/L
Components			
Inorganic Salts			
$CaCl_2$ (anhydrous)	165.00	165.00	165.00
KCl	330.00	330.00	330.00
KNO_3	0.076	0.076	0.076
$MgSO_4$ (anhydrous)	97.70	97.70	97.70
Na_2SeO_3	0.0173	0.0173	0.0173
NaCl	4,505.00	4,505.00	4,505.00
$NaH_2PO_4 \cdot H_2O$	125.00	125.00	125.00
$NaHCO_3$	3,024.00	3,024.00	--
Amino Acids			
L-Alanine	25.00	25.00	25.00
L-Arginine • HCl	84.00	84.00	84.00
L-Asparagine • H_2O	28.40	28.40	28.40
L-Aspartic acid	30.00	30.00	30.00
L-Cystine • 2HCl	91.24	91.24	91.24
L-Glutamic acid	75.00	75.00	75.00
L-glutamine	584.00	--	584.00
Glycine	30.00	30.00	30.00
L-Histidine • HCl • H_2O	42.00	42.00	42.00
L-Isoleucine	105.00	105.00	105.00
L-Leucine	105.00	105.00	105.00
L-Lysine • HCl	146.00	146.00	146.00
L-Methionine	30.00	30.00	30.00
L-Phenylalanine	66.00	66.00	66.00
L-Proline	40.00	40.00	40.00
L-Serine	42.00	42.00	42.00
L-Threonine	95.00	95.00	95.00
L-Tryptophan	16.00	16.00	16.00
L-Tyrosine • 2Na • $2H_2O$	103.79	103.79	103.79
L-Valine	94.00	94.00	94.00
Vitamins			
Biotin	0.013	0.013	0.013
D-Calcium pantothenate	4.00	4.00	4.00
Choline chloride	4.00	4.00	4.00
Folic acid	4.00	4.00	4.00
i-Inositol	7.20	7.20	7.20
Nicotinamide	4.00	4.00	4.00
Pyridoxine • HCl	4.00	4.00	4.00
Riboflavin	0.40	0.40	0.40
Thiamine • HCl	4.00	4.00	4.00
Vitamin B_{12}	0.013	0.013	0.013

Cat. No.	10-016	15-016	50-016
Description	Liquid, 1x	Liquid, 1x	Powder
Units	mg/L	mg/L	mg/L
Other			
D-Glucose	4,500.00	4,500.00	4,500.00
HEPES	5,958.00	5,958.00	5,958.00
Phenol red • Na	15.00	15.00	15.00
Sodium pyruvate	110.00	110.00	110.00
Add			
L-glutamine Powder (mg/L) 200 mM Solution (mL/L)	 -- --	 584.00 20.00	 -- --

ITS (Insulin, Transferrin, and Selenium Solution)

Cat. No.	25-800-CR
Description	Liquid Solution, 100x
Units	mg/L
Components	
Selenious acid	0.67
Insulin, human recombinant	1,000
Transferrin, human recombinant	550

LSM (Lymphocyte Separation Medium)

Cat. No.	25-072
Description	Liquid
Units	g/L
Components	
Diatrizoic acid	96.219
Polysucrose 400	61.363

"--" indicates not present

Leibovitz's L-15

Cat. No.	10-045	50-045
Description	Liquid, 1x	Powder
Units	mg/L	mg/L
Components		
Inorganic Salts		
$CaCl_2$ (anhydrous)	140.06	140.06
KCl	400.00	400.00
KH_2PO_4	60.00	60.00
$MgCl_2 \cdot 6H_2O$	200.00	200.00
$MgSO_4$ (anhydrous)	97.67	97.67
NaCl	8,000.00	8,000.00
Na_2HPO_4 (anhydrous)	190.00	190.00
Amino Acids		
L-Alanine	225.00	225.00
L-Arginine	500.00	500.00
L-Asparagine • H_2O	250.00	250.00
L-Cysteine	120.00	120.00
L-glutamine	300.00	300.00
Glycine	200.00	200.00
L-Histidine	250.00	250.00
L-Isoleucine	125.00	125.00
L-Leucine	125.00	125.00
L-Lysine • HCl	93.70	93.70
L-Methionine	75.00	75.00
L-Phenylalanine	125.00	125.00
L-Serine	200.00	200.00
L-Threonine	300.00	300.00
L-Tryptophan	20.00	20.00
L-Tyrosine • 2Na • $2H_2O$	430.00	430.00
L-Valine	100.00	100.00
Vitamins		
D-Calcium pantothenate	1.00	1.00
Choline chloride	1.00	1.00
Folic acid	1.00	1.00
i-Inositol	2.00	2.00
Nicotinamide	1.00	1.00
Pyridoxine • HCl	1.00	1.00
Riboflavin-5-PO_4 • Na	0.10	0.10
Thiamine • PO_4 • Cl • $2H_2O$	1.09	1.09
Other		
D-Galactose	900.00	900.00
Phenol red • Na	10.00	10.00
Sodium pyruvate	550.00	550.00

McCoy's 5A Medium (Iwakata and Grace Modification)

Cat. No.	10-050	10-051
Description	Liquid, 1x	Liquid, 1x
Units	mg/L	mg/L
Components		
Inorganic Salts		
$CaCl_2$ (anhydrous)	100.00	100.00
KCl	400.00	400.00
$MgSO_4$ (anhydrous)	97.70	97.70
NaCl	6,460.00	5,960.00
$NaH_2PO_4 \cdot H_2O$	580.00	580.00
$NaHCO_3$	2,200.00	2,200.00
Amino Acids		
L-Alanine	13.36	13.36
L-Arginine • HCl	42.14	42.14
L-Asparagine • H_2O	45.03	45.03
L-Aspartic acid	19.97	19.97
L-Cysteine • HCl • H_2O	35.14	35.14
L-Glutamic acid	22.10	22.10
L-glutamine	219.20	219.20
L-Glycine	7.50	7.50
L-Histidine • HCl • H_2O	20.96	20.96
Hydroxy-L-proline	19.70	19.70
L-Isoleucine	39.36	39.36
L-Leucine	39.36	39.36
L-Lysine • HCl	36.54	36.54
L-Methionine	14.92	14.92
L-Phenylalanine	16.52	16.52
L-Proline	17.30	17.30
L-Serine	26.30	26.30
L-Threonine	17.90	17.90
L-Tryptophan	3.10	3.10
Vitamins		
Ascorbic acid	0.50	0.50
Biotin	0.20	0.20
D-Calcium pantothenate	0.20	0.20
Choline chloride	5.00	5.00
Folic acid	10.00	10.00
i-Inositol	36.00	36.00
Nicotinamide	0.50	0.50
Nicotinic acid	0.50	0.50
Para-aminobenzoic acid	1.00	1.00
Pyridoxine • HCl	1.00	1.00
Riboflavin	0.20	0.20
Thiamine • HCl	0.20	0.20
Vitamin B_{12}	2.00	2.00
Other		
Bacto-peptone	600.00	600.00
D-Glucose	3,000.00	3,000.00
Glutathione (reduced)	0.50	0.50
HEPES	--	5,958.00
Phenol red • Na	10.00	10.00

"--" indicates not present

MCDB 131

Cat. No.	15-100
Description	Liquid, 1x
Units	mg/L

Components	
Inorganic Salts	
$CaCl_2 \cdot 2H_2O$	235.20
$CuSO_4 \cdot 5H_2O$	0.0012
$FeSO_4 \cdot 7H_2O$	0.278
KCl	298.20
$MgSO_4$ (anhydrous)	1,204.00
$MnSO_4 \cdot H_2O$	0.0002
NaCl	6,428.40
Na_2HPO_4 (anhydrous)	71.00
$NaHCO_3$	1,180.00
Na_2SeO_3	0.0052
$Na_2SiO_3 \cdot 9H_2O$	2.842
$(NH_4)_6Mo_7O_{24} \cdot 4H_2O$	0.0037
NH_4VO_3	0.0006
$NiCl_2 \cdot 6H_2O$	0.0001
$ZnSO_4 \cdot 7H_2O$	0.0003
Amino Acids	
L-Alanine	2.67
L-Arginine • HCl	63.21
L-Asparagine • H_2O	15.01
L-Aspartic Acid	13.31
L-Cysteine • HCl • H_2O	35.12
L-Glutamic Acid	4.413
L-Glycine	2.25
L-Histidine • HCl • H_2O	41.92
L-Isoleucine	65.60
L-Leucine	131.20
L-Lysine • HCl	182.60
L-Methionine	14.92
L-Phenylalanine	33.04
L-Proline	11.51
L-Serine	31.53
L-Threonine	11.91
L-Tryptophan	4.08

Cat. No.	15-100
Description	Liquid, 1x
Units	mg/L

Vitamins	
Biotin	0.0073
D-Calcium pantothenate	11.915
Choline chloride	13.96
Calcium folinic acid	0.5115
i-Inositol	7.208
Nicotinamide	6.105
DL-Thioctic (lipoic) acid	0.0021
Pyridoxine • HCl	2.056
Riboflavin	0.0038
Thiamine • HCl	3.373
Vitamin B_{12}	0.0136
Other	
D-Glucose	1,000.00
Putrescine • 2HCl	0.0002
Phenol red • Na	12.421
Sodium pyruvate	110.00
Thymidine	0.0242
Adenine HCl	0.1716

M199 (Medium 199)

Cat. No.	10-060	50-050	90-050
Description	Liquid, 1x	Powder	Powder
Units	mg/L	mg/L	mg/L
Components			
Inorganic Salts			
$CaCl_2$ (anhydrous)	200.00	200.00	200.00
$Fe(NO_3)_3 \cdot 9H_2O$	0.72	0.72	0.72
KCl	400.00	400.00	400.00
KH_2PO_4	--	--	--
$MgSO_4$ (anhydrous)	97.70	97.70	97.70
NaCl	6,800.00	6,800.00	6,800.00
$NaH_2PO_4 \cdot H_2O$	140.00	140.00	140.00
Na_2HPO_4 (anhydrous)	--	--	--
$NaHCO_3$	2,200.00	--	--
Amino Acids			
L-Alanine	25.00	25.00	25.00
L-Arginine • HCl	70.00	70.00	70.00
L-Aspartic acid	30.00	30.00	30.00
L-Cysteine • HCl • H_2O	0.11	0.11	0.11
L-Cystine • 2HCl	26.00	26.00	26.00
L-Glutamic acid	75.00	75.00	75.00
L-glutamine	100.00	100.00	--
Glycine	50.00	50.00	50.00
L-Histidine • HCl • H_2O	21.88	21.88	21.88
Hydroxy-L-proline	10.00	10.00	10.00
L-Isoleucine	20.00	20.00	20.00
L-Leucine	60.00	60.00	60.00
L-Lysine • HCl	70.00	70.00	70.00
L-Methionine	15.00	15.00	15.00
L-Phenylalanine	25.00	25.00	25.00
L-Proline	40.00	40.00	40.00
L-Serine	25.00	25.00	25.00
L-Threonine	30.00	30.00	30.00
L-Tryptophan	10.00	10.00	10.00
L-Tryosine • 2Na • $2H_2O$	57.87	57.87	57.87
L-Valine	25.00	25.00	25.00
Vitamins			
DL-alpha-Tocopherol • PO_4 • Na	0.01	0.01	0.01
Ascorbic acid	0.05	0.05	0.05
Biotin	0.01	0.01	0.01
Calciferol	0.10	0.10	0.10
D-Calcium pantothenate	0.01	0.01	0.01
Choline chloride	0.50	0.50	0.50
Folic acid	0.01	0.01	0.01

Cat. No.	10-060	50-050	90-050
Description	Liquid, 1x	Powder	Powder
Units	mg/L	mg/L	mg/L
Vitamins			
i-Inositol	0.05	0.05	0.05
Menadione • $NaHSO_3$ • $3H_2O$	0.019	0.019	0.019
Nicotinic acid	0.025	0.025	0.025
Nicotinamide	0.025	0.025	0.025
Para-Aminobenzoic acid	0.05	0.05	0.05
Pyridoxine • HCl	0.05	0.05	0.05
Riboflavin	0.01	0.01	0.01
Thiamine • HCl	0.01	0.01	0.01
Vitamin A acetate	0.14	0.14	0.14
Other			
Adenine sulfate	10.00	10.00	10.00
5-Adenylic acid • H_2O	0.20	0.20	0.20
ATP • 2Na • $3H_2O$	1.00	1.00	1.00
Cholesterol	0.20	0.20	0.20
2-Deoxy-D-ribose	0.50	0.50	0.50
D-Glucose	1,000.00	1,000.00	1,000.00
Glutathione (reduced)	0.05	0.05	0.05
Guanine • HCl	0.30	0.30	0.30
Hypoxanthine • Na	0.354	0.354	0.354
Phenol red • Na	10.00	10.00	--
D-Ribose	0.50	0.50	0.50
Sodium acetate	50.00	50.00	50.00
Thymine	0.30	0.30	0.30
Polysorbate 80	20.00	20.00	20.00
Uracil	0.30	0.30	0.30
Xanthine • Na	0.34	0.34	0.34
Add			
$NaHCO_3$ Powder (g/L) 7.5% Solution (mL/L)	 -- --	 2.20 29.33	 2.20 29.33
L-glutamine Powder (mg/L) 200 mM Solution (mL/L)	 -- --	 -- --	 100.00 3.40

"--" indicates not present

MEM Amino Acids Solution

Cat. No.	25-030
Description	Liquid, 50x
Units	mg/L

Components	
L-Arginine • HCl	6,320.00
L-Cystine • 2HCl	1,560.00
L-Histidine • HCl •H_2O	2,095.00
L-Isoleucine	2,625.00
L-Leucine	2,625.00
L-Lysine • HCl	3,625.00
L-Methionine	750.00
L-Phenylalanine	1,625.00
L-Threonine	2,380.00
L-Tryptophan	500.00
L-Tyrosine • HCl	2,160.00
L-Valine	2,340.00

MEM Vitamin Solution

Cat. No.	25-020
Description	100x Liquid
Units	mg/L

Components	
NaCl	8,500.00
D-Calcium pantothenate	100.00
Choline chloride	100.00
Folic acid	100.00
i-Inositol	200.00
Nicotinamide	100.00
Pyridoxine • HCl	100.00
Riboflavin	10.00
Thiamine • HCl	100.00

NEAA (MEM Nonessential Amino Acids Solution)

Cat. No.	25-025
Description	Liquid, 100x
Units	mg/L

Components	
L-Alanine	890.00
L-Asparagine • H_2O	1,500.00
L-Aspartic acid	1,330.00
L-Glutamic acid	1,470.00
Glycine	750.00
L-Proline	1,150.00
L-Serine	1,050.00

Microbiological Media

Cat. No.	46-003	46-050	46-055	46-060
Description	Liquid, S.O.C. Medium	Liquid LB Broth	Liquid Terrific Broth	Liquid Tryptic Soy Broth
Units	g/L	g/L	g/L	g/L
Components				
Casein peptone	20.00	10.00	12.00	--
Glycerol (mL)	--	--	4.00 (mL)	--
KH_2PO_4	--	--	2.31	--
K_2HPO_4	--	--	12.54	2.5
NaCl	0.5845	10.00	--	5.0
UF yeast powder	5.00	5.00	24.00	--
Dextrose	3.6032	--	--	2.5
KCl	0.186375	--	--	--
$MgCl_2$ (anhydrous)	0.9521	--	--	--
$MgSO_4$ (anhydrous)	1.2036	--	--	--
Non-animal origin peptone	--	--	--	20.0

Molecular Biology Buffers

Cat. No.	46-009	46-010	46-011	46-020	46-021	46-030	46-031
Description	Liquid TE Buffer, 1x	Liquid TAE Buffer, 10x	Liquid TBE Buffer, 10x	Liquid SSC Buffer, 20x	Liquid SSPE Buffer, 20x	1M Liquid Tris HCl pH 7.5, 1M	1M Liquid Tris HCl pH 8.0, 1M
Units	g/L	g/L	g/L	g/L	g/L	g/L	g/L
Components							
Boric acid	--	--	55	--	--	--	--
EDTA free acid (anhydrous)	--	2.922	2.92	--	7.4	--	--
EDTA • 2Na • $2H_2O$	0.37224	--	--	--	--	--	--
Glacial acetic acid	--	11.42	--	--	--	--	--
NaCl	--	--	--	175.35	175.3	--	--
Na citrate • $2H_2O$	--	--	--	88.2	--	--	--
Tris	0.46	48.4	108	--	--	21.78	66.67
Tris HCl	0.976	--	--	--	--	128.74	70.86
$NaH_2PO_4 • H_2O$	--	--	--	--	27.6	--	--

"--" indicates not present

Minimum Essential Medium (MEM)

Cat. No.	50-004	50-010	50-019	50-011	51-010	90-009	10-009	10-010	15-010	15-015	17-305
Description	Powder	Powder	Powder	Powder	Powder	Powder	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Components											
Inorganic Salts											
$CaCl_2$ (anhydrous)	200.00	200.00	140.00	200.00	200.00	200.00	200.00	200.00	200.00	--	200.00
$Fe(NO_3)_3 \cdot 9H_2O$	0.10	--	--	--	--	--	--	--	--	--	--
KCl	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
KH_2PO_4	--	--	60.00	--	--	--	--	--	--	--	--
$MgSO_4$ (anhydrous)	97.67	97.70	97.67	97.70	97.00	97.70	97.70	97.70	97.70	--	97.70
NaCl	6,400	6,800	8,000	6,800	6,800	6,800	6,800.00	6,800.00	6,800.00	6,800.00	6,800.00
$NaH_2PO_4 \cdot H_2O$	124.00	140.00	47.88	140.00	140.00	140.00	140.00	140.00	140.00	1,217.00	140.00
Na succinate $\cdot 6H_2O$	--	--	--	--	100.00	--	--	--	--	--	--
$NaHCO_3$	--	--	--	--	--	--	1,500.00	2,200.00	2,200.00	2,200.00	2,200.00
Amino Acids											
L-Alanine	--	--		8.90	--	--	8.90	--	--	--	--
L-Arginine • HCl	42.00	126.40	126.00	126.40	126.40	126.40	126.40	126.40	126.40	126.40	126.40
L-Asparagine $\cdot H_2O$	--	--	--	15.00	--	--	15.00	--	--	--	--
L-Aspartic acid	--	--	--	13.30	--	--	13.30	--	--	--	--
L-Cystine • 2HCl	31.28	31.20	31.39	31.20	31.10	31.20	31.20	31.20	31.20	31.20	31.20
L-Glutamic acid	--	--	--	14.70	--	--	14.70	--	--	--	--
L-glutamine	292.00	292.00	292.00	292.00	--	--	292.00	292.00	--	--	--
Glycine	--	--	--	7.50	--	--	7.50	--	--	--	--
L-Histidine • HCl $\cdot H_2O$	21.00	41.90	42.00	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90
L-Isoleucine	52.40	52.50	52.00	52.50	52.50	52.50	52.50	52.50	52.50	52.50	52.50
L-Leucine	52.40	52.50	52.00	52.50	52.50	52.50	52.50	52.50	52.50	52.50	52.50
L-Lysine • HCl	73.10	72.50	72.50	72.50	73.06	72.50	72.50	72.50	72.50	72.50	72.50
L-Methionine	15.00	15.00	15.00	15.00	14.90	15.00	15.00	15.00	15.00	15.00	15.00
L-Phenylalanine	33.00	32.50	32.00	32.50	33.02	32.50	32.50	32.50	32.50	32.50	32.50
L-Proline	--	--	--	11.50	--	--	11.50	--	--	--	--
L-Serine	--	--	--	10.50	--	--	10.50	--	--	--	--
L-Threonine	47.60	47.60	48.00	47.60	47.64	47.60	47.60	47.60	47.60	47.60	47.60
L-Tryptophan	8.00	10.00	10.00	10.00	10.20	10.00	10.00	10.00	10.00	10.00	10.00
L-Tyrosine • 2Na $\cdot 2H_2O$	52.19	51.90	51.90	51.90	--	51.90	51.90	51.90	51.90	51.90	51.90
L-Tyrosine, free base	--	--	--	--	36.00	--	--	--	--	--	--
L-Valine	46.80	46.80	46.00	46.80	46.90	46.80	46.80	46.80	46.80	46.80	46.80
Vitamins											
Choline bitartrate	--	--	--	--	1.80	--	--	--	--	--	--
D-Calcium pantothenate	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Choline chloride	2.00	1.00	1.00	1.00	--	1.00	1.00	1.00	1.00	1.00	1.00
Folic acid	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
i-Inositol	3.60	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Nicotinamide	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pyridoxine • HCl	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Riboflavin	0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Thiamine • HCl	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other											
D-Glucose	4,500.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Phenol red • Na	15.00	10.00	10.00	10.00	6.00	--	10.00	10.00	10.00	10.00	--
Succinic acid	--	--	--	--	75.00	--	--	--	--	--	--
Sodium Pyruvate	--	--	--	--	--	--	110.00	--	--	--	--
Add											
$NaHCO_3$											
Powder (g/L)	2.75	2.20	--	2.20	2.20	2.20	--	--	--	--	--
7.5% Solution (mL/L)	33.40	26.70	--	26.70	26.70	26.70	--	--	--	--	--
L-glutamine											
Powder (mg/L)	--	--	--	--	292.00	292.00	--	--	--	--	--
200 mM Solution (mL/L)	--	--	--	--	10.00	10.00	--	--	--	--	--

"--" indicates not present

Penicillin Streptomycin Solutions

Cat. No.	30-001	30-002	30-009
Description	Liquid, 50x	Liquid, 100x	Liquid, 100x
Units	g/L	g/L	g/L
Components			
Penicillin G • potassium salt	5,000,000 µ/L	10,000,000 µ/L	10,000,000 µ/L
Streptomycin sulfate	5.0	10.0	10.0
L-glutamine	--	--	29.2
Sodium citrate dihydrate	--	--	2.582
NaCl	--	--	1.4

Trace Elements

Cat. No.	25-021	25-022	25-023
Description	(A) 1,000x	(B) 1,000x	(C) 1,000x
Units	mg/L	mg/L	mg/L
Components			
$CuSO_4 \cdot 5H_20$	1.60	--	--
$ZnSO_4 \cdot 7H_20$	863.00	--	--
Selenite • 2Na	17.30	--	--
Ferric citrate	1,155.10	--	--
$MnSO_4 \cdot H_20$	--	0.17	--
$Na_2SiO_3 \cdot 9H_20$	--	140.00	--
Molydbic acid, ammonium salt	--	1.24	--
NH_4VO_3	--	0.65	--
$NiSO_4 \cdot 6H_2O$	--	0.13	--
SnCI2 (anhydrous)	--	0.12	--
$AlCl_3 \cdot 6H_2O$	--	--	1.20
$AgNO_3$	--	--	0.17
$Ba(C_2H_3O_2)_2$	--	--	2.55
KBr	--	--	0.12
$CdCl_2$	--	--	2.28
$CoCl_2 \cdot 6H_2O$	--	--	2.38
$CrCl_3$ (anhydrous)	--	--	0.32
NaF	--	--	4.20
GeO_2	--	--	0.53
KI	--	--	0.17
RbCI	--	--	1.21
$ZrOCl_2 \cdot 8H_2O$	--	--	3.22

"--" indicates not present

Trypsin and Trypsin/EDTA Solutions

Cat. No.	25-050	25-051	25-052	25-053	25-054
Description	Liquid, 1x 0.25% Trypsin in HBSS	Liquid, 1x 0.05% Trypsin 0.53 mM EDTA in HBSS	Liquid, 1x 0.05% Trypsin 0.53 mM EDTA in HBSS	Liquid, 1x 0.25% Trypsin 2.21 mM EDTA in HBSS	Liquid, 10x 2.5% Trypsin in HBSS
Units	mg/L	mg/L	mg/L	mg/L	mg/L
Components					
D-Glucose	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
EDTA • 4Na • $2H_2O$	--	221.00	221.00	920.00	--
KCl	400.00	400.00	400.00	400.00	400.00
KH_2PO_4	60.00	60.00	60.00	60.00	60.00
NaCl	8,000.00	8,000.00	8,000.00	8,000.00	8,000.00
$NaHCO_3$	350.00	350.00	--	--	350.00
Na_2HPO_4 (anhydrous)	47.70	47.70	47.70	47.70	47.50
Phenol red • Na	10.00	10.00	10.00	10.00	--
Trypsin 1:250	2,500.00	500.00	500.00	2,500.00	25,000.00

TSB (Tryptic Soy Broth)

Cat. No.	46-060	61-411
Description	Liquid, 1x	Powder
Units	g/L	g/L
Components		
Non-animal origin peptone	20.0	20.0
Dextrose	2.5	2.5
NaCl	5.0	5.0
K_2HPO_4	2.5	2.5

Trypan Blue

Cat. No.	25-900
Description	0.4% Solution
Units	g/L
Components	
Trypan blue	4.0
NaCl	8.10
K_2HPO_4	0.60

"--" indicates not present

RPMI 1640

Cat. No.	10-040	10-041	10-043	15-040	15-041	17-104	17-105	50-020	90-022
Description	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Powder	Powder
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Components									
Inorganic Salts									
$Ca(NO_3)_2 \cdot 4H_2O$	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
KCl	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
$MgSO_4$ (anhydrous)	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80
NaCl	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
Na_2HPO_4 (anhydrous)	800.70	800.70	800.70	800.70	800.70	800.70	800.70	800.70	800.70
$NaHCO_3$	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	--	--
Amino Acids									
L-Arginine	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
L-Asparagine $\cdot H_2O$	56.82	56.82	56.82	56.82	56.82	56.82	56.82	56.82	56.82
L-Aspartic acid	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
L-Cystine • 2HCl	65.20	65.20	65.20	65.20	65.20	--	65.20	65.20	65.20
L-Glutamic acid	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
L-glutamine	300.00	300.00	300.00	--	--	--	--	300.00	--
Glycine	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
L-Histidine	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Hydroxy-L-proline	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
L-Isoleucine	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
L-Leucine	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
L-Lysine • HCl	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
L-Methionine	15.00	15.00	15.00	15.00	15.00	--	15.00	15.00	15.00
L-Phenylalanine	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
L-Proline	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
L-Serine	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
L-Threonine	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
L-Tryptophan	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
L-Tyrosine • 2Na • $2H_2O$	28.83	28.83	28.83	28.83	28.83	28.83	28.83	28.83	28.83
L-Valine	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Vitamins									
Biotin	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
D-Calcium pantothenate	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Choline chloride	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Folic acid	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
i-Inositol	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Nicotinamide	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Para-Aminobenzoic acid	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Pyridoxine • HCl	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Riboflavin	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Thiamine • HCl	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Vitamin B_{12}	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005

"--" indicates not present

RPMI 1640 (continued)

Cat. No.	10-040	10-041	10-043	15-040	15-041	17-104	17-105	50-020	90-022
Description	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Liquid, 1x	Powder	Powder
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Components (continued)									
Other									
D-Glucose	2,000.00	2,000.00	--	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Glutathione (reduced)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
HEPES	--	5,958.00	--	--	5,958.00	--	--	--	--
Phenol red • Na	5.00	5.00	5.00	5.00	5.00	5.00	--	5.00	--
Add									
$NaHCO_3$									
Powder (g/L)	--	--	--	--	--	--	--	2.00	2.00
7.5% Solution (mL/L)	--	--	--	--	--	--	--	26.70	26.70
L-glutamine									
Powder (mg/L)	--	--	--	300.00	300.00	300.00	300.00	--	300.00
200 mM Solution (mL/L)	--	--	--	10.27	10.27	10.27	10.27	--	10.27

"--" indicates not present

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Corning packaging systems and high quality water are not intended for use in parenteral applications. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications

Microarray

Slide Selection Chart

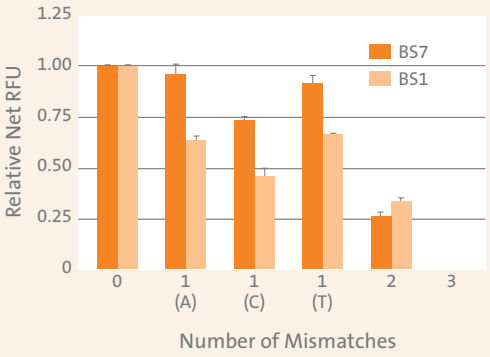
Slide	Attachment Chemistry	Probe Types	Recommended Spotting Media	Applications
Epoxide	Covalent, epoxysilane	Oligonucleotides	150 mM sodium phosphate, pH 8.5, 0.005% SDS	◗ Transcriptional profiling ◗ SNP analysis
UltraGAPS™	Ionic, aminosilane	Double-stranded DNA	Ethylene glycol 30% to 50% DMSO 3xSSC 150 mM sodium phosphate, pH 7.5	◗ Transcriptional profiling ◗ Array CGH ◗ ChIP-on-Chip
GAPS™ II	Ionic, aminosilane	Proteins	20% Glycerol in PBS (ligand dependent)	◗ Antibody screening ◗ Functional assays

Epoxide-coated Slides

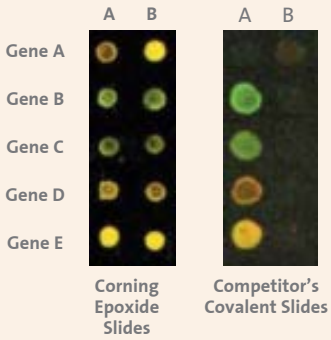
Corning® Epoxide-coated slides provide the optimal, uniform surface chemistry for covalent attachment of **unmodified or amino-modified short oligonucleotides** (~30-mer), as well as long oligonucleotides (>50-mer) and cDNA.

- Ideal for short oligonucleotides, long oligonucleotides, and cDNA
- Print with unmodified or amino-modified oligonucleotides
- No UV crosslinking or baking step required for DNA coupling
- Minimal contribution to interarray variability (less than 3% CV)
- Detect 1 pg RNA spiked into 4 µg of total RNA sample
- Differentiate between 90% homologous oligos (3 mismatches in 30-mer oligonucleotides)

Cat. No.	Description	Slides/Pk	Slides/Cs
40041	Epoxide-coated slides with bar code	5	25
40042	Epoxide-coated slides without bar code	5	25
40043	Epoxide-coated slides with bar code, bulk pack	25	25
40044	Epoxide-coated slides without bar code, bulk pack	25	25



Differentiate between 90% homologous oligonucleotides. Corning Epoxide-coated slides perform together to differentiate between 90% homologous oligonucleotides (3 mismatches in 30-mer oligonucleotides). A study using mismatch oligonucleotides designed for two *B. subtilis* genes (BS7 and BS1) was performed. No mismatches (0), 1 mismatch (A, C, T) or multiple mismatches (2, 3) were tested for specificity of detection under identical processing conditions. As indicated in the above graph, there is a reduction in signal for each successive mismatch until no detectable signal is observed for 3 mismatches.



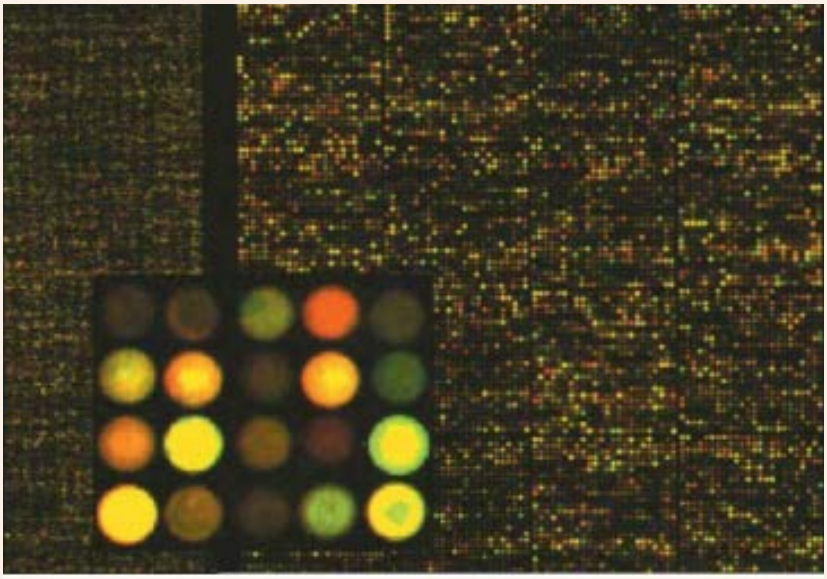
Use unmodified or amino-modified oligonucleotides. Oligonucleotides (30-mer) were printed onto Corning Epoxide-coated slides and a competitor's covalent slides, following recommended protocols. Oligonucleotides were either C6-amino modified at the 5' end (A columns) or unmodified (B columns). Cy5/Cy3 ratios correlated strongly between modified and unmodified oligonucleotides for Corning Epoxide slides, but the competitor's slides showed an absolute requirement for amino modification of the oligonucleotides.

UltraGAPS™-coated Slides

The Gamma Amino Propyl Silane surface on UltraGAPS-coated slides is ideal for printing long (>50-mer) oligonucleotides, as well as cDNA. UltraGAPS-coated slides have a more hydrophobic surface than competitors' slides, resulting in smaller, more consistent spot size. Each lot is tested for consistent spot morphology, signal intensity, and low background in a hybridization assay. Some of the applications for which UltraGAPS-coated slides are ideally suited include: gene expression analysis, genotyping, and CGH (comparative genomic hybridization).

- Minimal contribution to interarray variability (less than 5% CV)
- Low background autofluorescence
- Consistent spot morphology
- Uniform surface treatment
- Higher hydrophobicity

Cat. No.	Description	Slides/Pk	Slides/Cs
40015	UltraGAPS-coated slides with bar code	5	25
40016	UltraGAPS-coated slides without bar code	5	25
40017	UltraGAPS-coated slides with bar code, bulk pack	25	25
40018	UltraGAPS-coated slides without bar code, bulk pack	25	25



A 27,000 feature array was printed on UltraGAPS-coated slides. The inset shows a magnification to highlight the low background, uniform spot morphology, and signal intensity of the array (3 magnifications).

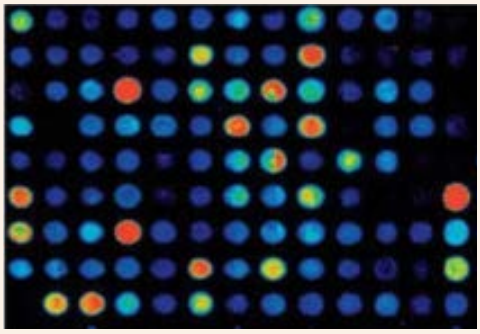
Data courtesy of A. Borg, Ph.D., Lund University, Sweden.

GAPS™ II-coated Slides

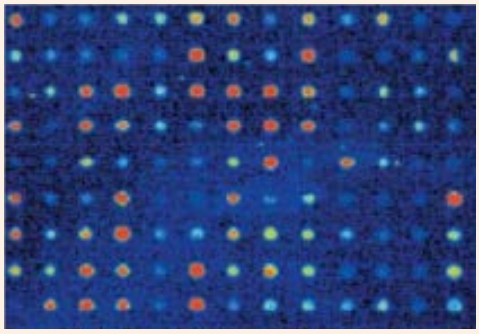
GAPS II-coated slides are manufactured from a proprietary ultraflat glass that enhances microarray performance, enabling more accurate reading of microarrays by confocal laser scanners. GAPS II-coated slides are manufactured using the same coating process and attachment chemistry as the original GAPS amino-silane coated slides, enabling researchers to use the same protocols that they optimized for GAPS slides.

- Recommended for both DNA and protein arrays
- High DNA retention for maximum signal strength
- Low background autofluorescence

Cat. No.	Description	Slides/Pk	Slides/Cs
40003	GAPS II-coated slides with bar code	5	25
40004	GAPS II-coated slides without bar code	5	25
40005	GAPS II-coated slides with bar code, bulk pack	25	25
40006	GAPS II-coated slides without bar code, bulk pack	25	25



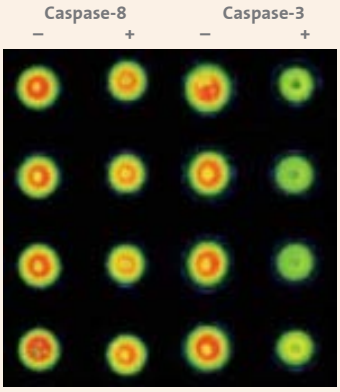
GAPS II-coated slide



Ordinary silane-coated slide

Spot morphology on GAPS II-coated slides. Note uniform spot morphology, high signal strength, and ultra-low background with the GAPS II-coated slide.

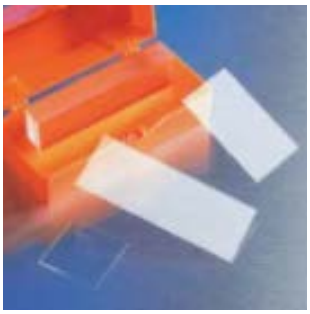
Images courtesy of Dr. John Quackenbush of the Institute for Genomic Research (TIGR), Rockville, MD.



Functional peptide array on GAPS II-coated slides. The Caspase-3 substrate NH2-DEVDA-Biotin was suspended in Corning® Epoxide spotting solution and printed in quadruplicate onto anhydride-derivatized GAPS II-coated slides. Peptide arrays were incubated with avidin-Cy3 in the absence or presence of Caspase-8 or Caspase-3 (as indicated) and scanned at 532 nm. The printed DEVDA peptide retained function on the array, as indicated by the reduced fluorescence seen in the spots treated with Caspase-3 but not Caspase-8. Note: GAPS II-coated slides have also been used successfully for protein arraying without derivatization.

Data generated by Corning R&D.

Corning® Cover Glass

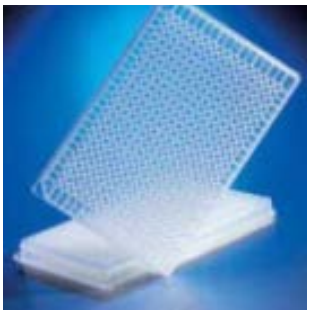


Corning cover glass is manufactured from special, optically clear glass. The cover glass is resistant to surface attack or weathering and will remain clear for extended periods of time. The flatness is controlled by a machine process resulting in a trouble-free fit to slides for a wettable and bubble-free mount.

The thickness of No. 1½ cover glass is 0.16 mm to 0.19 mm. Cover glass is packaged in plastic boxes for protection and convenience. Other sizes and thicknesses are available.

Cat. No.	Description	Qty/Pk	Qty/Cs
2850-22	Corning cover glass, square, 22 x 22 mm, No. 1½	200	2000
2980-223	Corning cover glass, rectangular, 22 x 30 mm, No. 1½	100	1000
2980-224	Corning cover glass, rectangular, 22 x 40 mm, No. 1½	100	1000
2980-225	Corning cover glass, rectangular, 22 x 50 mm, No. 1½	100	1000
2980-243	Corning cover glass, rectangular, 24 x 30 mm, No. 1½	100	1000
2980-244	Corning cover glass, rectangular, 24 x 40 mm, No. 1½	100	1000
2980-245	Corning cover glass, rectangular, 24 x 50 mm, No. 1½	100	1000
2980-246	Corning cover glass, rectangular, 24 x 60 mm, No. 1½	100	1000

384-well Microarray Printing Plates



Corning 384-well polypropylene microplates are available in both low-volume and full-volume well formats to meet source plate requirements for printing DNA content onto microarray slides. The plates are manufactured from solvent-resistant, virgin polypropylene that is compatible with many organic
solvents including DMSO. The plates feature rigid, full length skirts for full compatibility with automation.

- Well design provides for maximum sample recovery
- Resistant to many organic solvents including DMSO
- RNase-/DNase-free
- Automation compatible

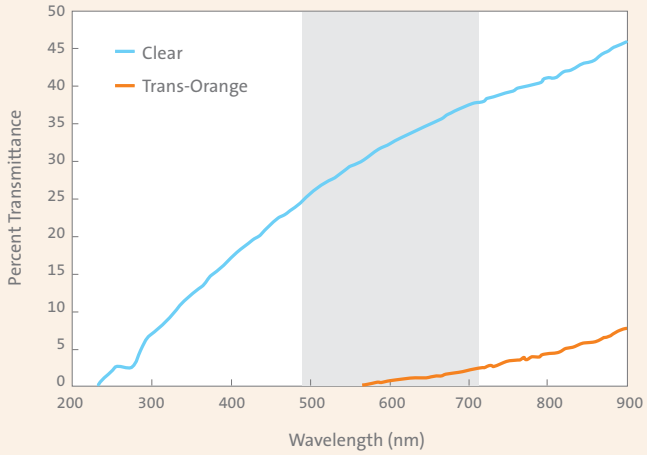
Cat. No.	Description	Qty/Pk	Qty/Cs
3656	384-well storage plate, polypropylene, full volume	25	100
Accessories			
6569	Aluminum sealing tape for 384-well microplates	100	100
3099	Universal lid for 384-well microplates	25	50
3085	DMSO-resistant lid for 384-well microplates	25	50
3089	Robolid with corner notch for 384-well microplates	25	50

Microarray Slide Mailers/Storage Boxes

The plastic containers in which UltraGAPS™-coated slides are shipped also function as storage boxes for printed arrays. These containers are available as either 5-slide mailers or 25-slide storage boxes. The trans-orange plastic has low transmittance in the 500 nm to 700 nm wavelength range which helps protect Cy3 and Cy5 dyes from photobleaching. These rigid plastic containers do not shed particles or outgas volatile chemicals that may contaminate microarray slides.

The Corning® 25-slide storage box has a lift-off lid which is easy to open and close. The 5-slide mailer has a hinged lid that snaps closed tightly to prevent slides from accidentally falling out.

Cat. No.	Description	Qty/Pk	Qty/Cs
40082	5-slide mailer for microarrays	50	50
40081	25-slide storage box for microarrays	10	20



Transmittance through Corning trans-orange slide mailers. Low transmittance (500 nm to 700 nm) helps protect Cy3 and Cy5 from photobleaching.

Microarray Storage Pouches

Corning microarray storage pouches for 5- and 25-slide mailers/storage boxes are the same pouches in which Corning UltraGAPS- and Epoxide-coated slides are shipped. These tear-resistant, foil-laminated pouches can be used to store and ship microarrays.

When heat-sealed, the pouches protect microarrays from light, humidity, and environmental contaminants. Each pouch is affixed with a 3" x 4" white marking label.

Microarray Storage Pouches

Cat. No.	Description	Qty/Pk	Qty/Cs
40085	5-slide storage pouch	50	50
40086	25-slide storage pouch	50	50

Hybridization Chambers

Corning® hybridization chambers are designed to hold microarray slides (25 x 75 mm) at constant humidity during hybridization incubations. The O-ring and retaining clips ensure that the reusable chambers remain water-tight when submerged in water baths and air-tight in hybridization ovens. Wells in the base hold 10 µL to 15 µL of water to maintain optimal interior humidity.

The original Corning hybridization chamber (Cat. No. 2551) provides the ideal interior height and volume for use with one slide of the standard 1 mm thickness and a standard cover glass. The Corning hybridization chamber II (Cat. No. 40080) has an increased interior depth which not only allows for single slide hybridizations but also allows the user to place two arrays face-to-face and hybridize using a single labeled target.

Cat. No.	Description	Qty/Pk	Qty/Cs
2551	Hybridization chamber	1	5
40080	Hybridization chamber II with increased depth	1	5
40001	Replacement O-rings (fit both chambers)	5	5

Microplates for Assays and Cell Culture

Overview

Designed for Performance

Corning has been setting the standard for excellence in life sciences labware for over 85 years. With our comprehensive line of plasticware, including assay products, we continue to be an industry leader. Corning strives for the highest standards in product design and plastics molding.

Corning® microplates and accessories are manufactured under strict process controls guaranteeing consistent product performance. Our manufacturing facilities are in compliance with cGMP standards and are ISO 9001 registered.

Customers can request a Certificate of Compliance for any Corning microplate. Also available are detailed product descriptions and drawings that highlight product dimensions and testing procedures. All are available by contacting your local Corning Life Sciences office. See the back cover of this guide for a listing.

The Equipment Compatibility Program

Quality and Compatibility from Corning

Corning Life Sciences maintains a comprehensive equipment compatibility program in which leading equipment manufacturers certify the compatibility of our products with their instruments.

Corning microplates offer compatibility with a wide range of laboratory instrumentation, including microplate readers, microplate washers, liquid handling instruments, automation accessories, and robotic systems. To make it easy to identify the Corning microplates that perform well with your instruments, we have assembled an Equipment Compatibility Guide with the help of manufacturers from throughout the industry. The Guide is available at www.corning.com/lifesciences. To ensure the accuracy of this reference guide, we invited leading manufacturers to test our microplates on their instruments using extensive criteria for fit and function. For example, a microplate reader manufacturer would have tested a Corning microplate for proper fit in the microplate carrier, suitable optical performance, and compatibility with all of the instrument's accessories, including microplate stackers and bar code readers. If the microplate met all criteria, the manufacturer then signed a form certifying that the microplate was tested for fit and function and found compatible with their instrument and all relevant accessories. So you have their assurance, as well as ours, that the Corning microplates you choose will perform as intended. Please use this Equipment Compatibility Guide with confidence.

Corning® 96-well Microplates

Corning offers a complete line of 96-well microplates for laboratory miniaturization and automation. These microplates are available for different applications:

- 96-well assay microplates
  - General assays – Not treated, nonbinding surface, covalent binding, high binding, flexible vinyl (PVC), and UV microplates
  - Cell-based assays – Tissue culture-treated, Corning® CellBIND® surface, Poly-D-Lysine, and Ultra-Low Attachment polystyrene microplates
  - Immunoassays – EIA/RIA polystyrene microplates (medium and high binding)
- 96-well polystyrene Corning Stripwell™ microplates
- 96-well polypropylene storage microplates and cluster tubes

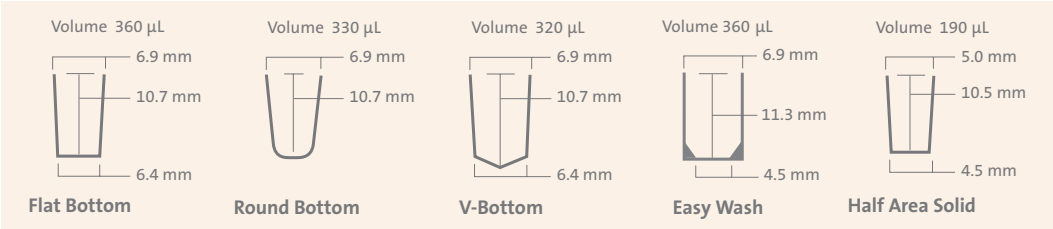
For information on 96-well microplates for PCR and genomics, see the **Corning Genomics Selection Guide** (CLS-MP-009).

Corning offers a wide variety of 96-well assay microplates. They are organized into five groups:

- Clear polystyrene microplates
- Solid black and white polystyrene microplates
- Clear bottom black and white polystyrene microplates
- UV microplates
- Clear flexible vinyl (PVC) microplates

Corning 96-well polystyrene microplates are offered in standard volume formats and in lower volume format (Corning half area microplates). Corning 96-well polystyrene microplates have plate dimensions (length x width x height) of 127.76 x 85.48 x 14.22 mm that meet standard ANSI/SBS footprint dimensions for microplates.

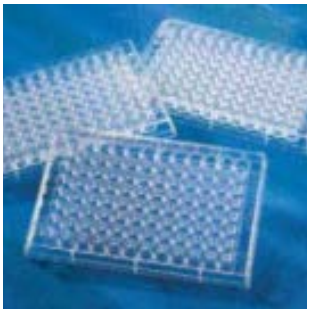
96-well Plate Types	Well Bottom	Total Well Volume (µL)	Recommended Working Volume (µL)
Standard	Flat	360	75 to 200
Standard	Round	330	75 to 200
Standard	V	320	75 to 200
Standard	Easy Wash	360	75 to 200
Half area, solid	Flat	190	25 to 125
Half area, clear bottom	Flat	205	25 to 125



96-well Geometry and Dimensions

Corning tissue culture-treated microplates have the same surface treatment used on other Corning culture vessels. In addition to this traditional surface, Corning offers three additional surfaces: Corning CellBIND surface treatment for improving consistency and even cell attachment, a Poly-D-Lysine coating for enhancing attachment of difficult-to-attach cell lines, and an Ultra-Low Attachment surface for minimizing cell attachment.

For microplate selection process and additional information, see the **Corning® and Falcon® Microplates Selection Guide** (CLS-C-DL-MP-014).



Corning® 96-well Clear Polystyrene Microplates

- Sterile
- Nonpyrogenic
- Lids are available where indicated.

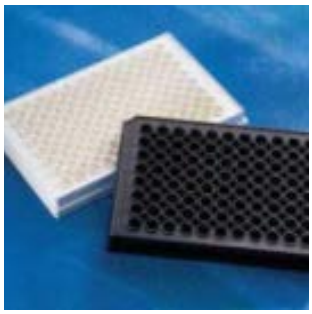
Refer to the Microplate Accessories section for information about microplate accessory products, including sealing tapes and mats.

Cat. No.	Format	Well Bottom	Surface Treatment	Sterile	Qty/Pk	Qty/Cs
3360	Standard	Round	TC-treated	Yes	25	100
3366	Standard	Round	High binding	No	25	100
3367	Standard	Round	Not treated	Yes	1	50
3788	Standard, with lid	Round	Not treated	Yes	20	100
3795	Standard	Round	Not treated	Yes	25	100
3798	Standard	Round	Not treated*	No	25	100
3797	Standard	Round	Not treated	No	25	100
3799	Standard, with lid	Round	TC-treated	Yes	1	50
7007	Standard, with lid	Round	Ultra-Low Attachment	Yes	1	24
3894	Standard, with lid	V	TC-treated	Yes	1	50
3896	Standard	V	Not treated	Yes	1	48
3897	Standard	V	Not treated	No	25	100
3898	Standard	V	Not treated*	No	25	100
2507	Standard	Flat	Carbo-BIND	No	1	50
2509	Standard	Flat	Sulfhydryl-BIND	No	1	50
3300	Standard, with lid	Flat	Corning CellBIND	Yes	5	50
3361	Standard, with lid	Flat	High binding	Yes	20	100
3370	Standard, with lid	Flat	Not treated	Yes	20	100
3474	Standard, with lid	Flat	Ultra-Low Attachment	Yes	1	24
3585	Standard, with lid**	Flat	TC-treated	Yes	5	50
3590	Standard	Flat	High binding	No	1	100
3591	Standard	Flat	Not treated	No	1	50
3595	Standard, with lid**	Flat	TC-treated	Yes	1	50
3596	Standard, with lid	Flat	TC-treated	Yes	1	50
3598	Standard, with lid	Flat	TC-treated	Yes	5	100
3599	Standard, with lid	Flat	TC-treated	Yes	1	100
3628	Standard, with lid	Flat	TC-treated	Yes	20	100
3641	Standard	Flat	Nonbinding	No	25	100
3841	Standard, with lid	Flat	Poly-D-Lysine	Yes***	20	100
3997	Standard, with lid	Flat	TC-treated	Yes	10	50
9017	Standard	Flat	Not treated	No	25	100
9018	Standard	Flat	High binding	No	25	100
3690	Half Area	Flat	High binding	No	25	100
3695	Half Area	Flat	Not treated	No	25	100
3696	Half Area, with lid	Flat	TC-treated	Yes	1	50
3697	Half Area, with lid	Flat	TC-treated	Yes	20	100
3368	Standard	Easy Wash	Not treated	No	25	100
3369	Standard	Easy Wash	High binding	No	25	100

* Processed to improve hydrophilicity for hemagglutination and similar assays.
** Special low evaporation lid.
*** Aseptically manufactured.

Corning CellBIND® Surface for Optimizing Cell-based Assay Performance

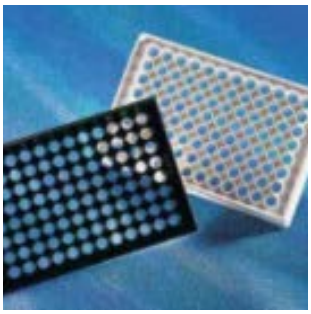
- Available in 96- and 384-well black clear bottom microplates and 96-well clear solid microplates
- Surface treatment provides consistent cell attachment and may improve attachment of difficult-to-attach cell lines.
- Not a coating; requires no special handling, and is stable at room temperature
- Sterile
- Nonpyrogenic



Corning® 96-well Solid Black and White Polystyrene Microplates

- Designed to reduce well-to-well cross-talk
- White microplates enhance luminescent signals and have low background luminescence.
- Black microplates have low background fluorescence and minimize light scattering.

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/Pk	Qty/Cs
3605	Standard	White	Round	Nonbinding	No	25	100
3789	Standard	White	Round	Not treated	No	25	100
3792	Standard	Black	Round	Not treated	No	25	100
4590	Standard	Black	Round	Carbo-Bind	No	1	50
4591	Standard	Black	Round	Ultra-Low Attachment	Yes	1	24
3362	Standard	White	Flat	TC-treated	Yes	25	100
3600	Standard	White	Flat	Nonbinding	No	25	100
3650	Standard	Black	Flat	Nonbinding	No	25	100
3912	Standard	White	Flat	Not treated	No	25	100
3915	Standard	Black	Flat	Not treated	No	25	100
3916	Standard, with lid	Black	Flat	TC-treated	Yes	20	100
3917	Standard, with lid	White	Flat	TC-treated	Yes	20	100
3922	Standard	White	Flat	High binding	No	25	100
3925	Standard	Black	Flat	High binding	No	25	100
3990	Standard	White	Flat	Nonbinding	No	5	25
3991	Standard	Black	Flat	Nonbinding	No	5	25
3642	Half area	White	Flat	Nonbinding	No	25	100
3686	Half area	Black	Flat	Nonbinding	No	25	100
3688	Half area, with lid	White	Flat	TC-treated	Yes	20	100
3693	Half area	White	Flat	Not treated	No	25	100
3694	Half area	Black	Flat	Not treated	No	25	100
3875	Half area, with lid	Black	Flat	TC-treated	Yes	20	100
3992	Half area	White	Flat	Nonbinding	No	5	25
3993	Half area	Black	Flat	Nonbinding	No	5	25



Tip for Improving Optical Performance in Fluorescent Assays

Corning® Special Optics 96-well microplates have black walls with ultra-thin, clear bottoms for sharp, clear images and minimal background in fluorescent assays.

Corning® 96-well Clear Bottom Black and White Polystyrene Microplates

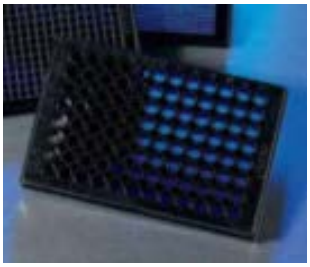
- Bottoms are 60% thinner than conventional polystyrene microplates, resulting in lower background fluorescence and enabling readings down to 340 nm.
- Opaque walls prevent well-to-well cross-talk.
- Optically clear flat bottom permits direct microscopic viewing.

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/Pk	Qty/Cs
3340	Standard, with lid	Black	Flat	Corning CellBIND®	Yes	5	50
3372	Standard, with lid	Black	Flat	Poly-D-Lysine	Yes	10	50
3601	Standard	Black	Flat	High binding	No	25	100
3603	Standard, with lid	Black	Flat	TC-treated	Yes	1	48
3604	Standard	White	Flat	Nonbinding	No	25	100
3610	Standard, with lid	White	Flat	TC-treated	Yes	1	48
3614	Special Optics	Black	Flat	TC-treated	Yes	25	100
3615	Special Optics	Black	Flat	Not treated	No	25	100
3631	Standard	Black	Flat	Not treated	No	25	100
3632	Standard	White	Flat	Not treated	No	25	100
3651	Standard	Black	Flat	Nonbinding	No	25	100
3720	Special Optics	Black	Flat	TC-treated	Yes	5	25
3843	Standard, with lid	White	Flat	Poly-D-Lysine	Yes*	20	100
3842	Standard, with lid	Black	Flat	Poly-D-Lysine	Yes*	20	100
3903	Standard, with lid	White	Flat	TC-treated	Yes	20	100
3904	Standard, with lid	Black	Flat	TC-treated	Yes	20	100
4594	Standard	Black	Flat	Fibronectin	No	20	100
3995	Standard	White	Flat	Nonbinding	No	5	25
3809	Standard	White	Flat	Corning CellBIND	Yes	20	100
3721	Half area	Black	Flat	TC-treated	Yes	5	25
3880	Half area	Black	Flat	Not treated	No	25	100
3881	Half area	Black	Flat	Nonbinding	No	25	100
3882	Half area, with lid	Black	Flat	TC-treated	Yes	20	100
3883	Half area	White	Flat	Not treated	No	25	100
3884	Half area	White	Flat	Nonbinding	No	25	100
3885	Half area, with lid	White	Flat	TC-treated	Yes	20	100
3886	Half area	White	Flat	TC-treated	Yes	25	100
3887	Half area	Black	Flat	TC-treated	Yes	25	100
3994	Half area	White	Flat	Nonbinding	No	5	25

*Aseptically manufactured.

For other surface-treated microplates, see the **Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts and Addendum** section.

Corning® 96-well Multicoated Microplates



- Corning 96-well multicoated microplate allows you access to five different surface treatments on a single plate.
- Useful when determining the correct surface for your assay requirements
- Single surface microplates can then be used for the full screen or experiment.
- Surfaces include Poly-D-Lysine, collagen type I, gelatin, fibronectin, and tissue culture-treated.

Cat. No.	Description	Lid	Qty/Cs
3823	96-well, black with clear bottom, multicoated microplate	Yes	10

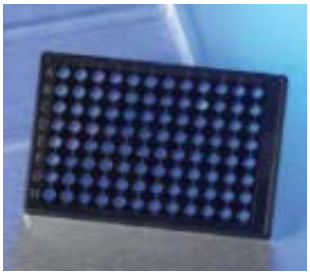
Corning 96-well Spheroid Microplates

With their novel and proprietary design, these microplates are ideal for generating and analyzing 3D multicellular spheroids in the same microplate. The Ultra-Low Attachment surface enables uniform and reproducible 3D multicellular spheroid formation. The black opaque microplate body shields each optically clear, round bottom well from well-to-well cross-talk.

- Optically clear round bottom with black opaque microplate body
- Covalent attachment of Ultra-Low Attachment surface to reduce cellular adhesion to well surface
- Novel well geometry aids in the generation of uniform, single spheroids across all wells, which enables automated visualization.
- Unique design shields each well to minimize well-to-well cross-talk.
- You can culture and assay spheroids in the same microplate, without the need for transfer to a new microplate.

Cat. No.	Description	Qty/Pk	Qty/Cs
4520	96-well spheroid microplate, black, clear bottom, round, Ultra-Low Attachment surface, sterile	10	50
4515	96-well spheroid microplate, black, clear bottom, round, Ultra-Low Attachment surface, sterile	5	5

Corning 96-well High Content Screening Microplates with Film Bottom

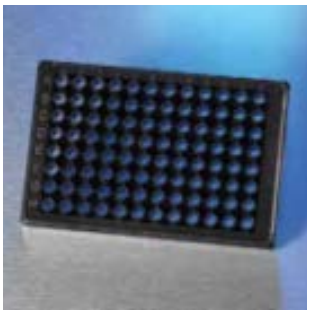


With an ultra-clear film, a 127 µm film thickness, and an unprecedented flatness (whole plate and intra-well), these microplates are ideal for high resolution cellular imaging applications. The microplate and film are manufactured from cyclic olefin copolymer (COC), which has excellent optical properties, chemical resistance, and mechanical stability.

- COC material allows for broad chemical resistance (including DMSO) and high mechanical stability.
- Ultra-clear film with 127 µm thickness is well suited for imaging micropscopy.
- Inter- and intra-well film bottom flatness within 50 µm and 10 µm, respectively, optimized for high content applications
- Low auto-fluorescence and birefringence

Cat. No.	Description	Qty/Pk	Qty/Cs
4680	Half area, film bottom, black, clear bottom, flat, with lid, TC-treated, sterile	4	16

Corning® 96-well High Content Screening Microplates with Glass Bottom



High optical quality, glass bottom, black microplates are ideal for performing high content cell-based assays using imaging systems. The glass bottom provides a flat and optically clear surface that reduces autofocus time, increases throughput, and is ideal for cell growth.

- High optical quality and scratch resistant glass
- Glass bottom thickness of 200 µm is well suited for imaging microscopy.
- Bottom flatness <50 µm to ensure planarity for imaging devices
- Low background fluorescence and minimal cross-talk provides the highest possible optical quality for cell-based assays.
- Half area 96-well microplate reduces reagent consumption.

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
4580	96-well half area glass bottom microplate, uncoated, with lid	Yes	1	10
4582	96-well half area, glass bottom microplate, Collagen coated, with lid	No	1	10
4584	96-well half area, glass bottom microplate, Fibronection coated, with lid	No	1	10
4586	96-well half area, glass bottom microplate, Poly-D-Lysine coated, with lid	No	1	10

Corning 96-well UV Microplates

The Corning 96-well UV microplate has a UV-transparent well bottom and is ideal for determining protein and/or nucleic acid concentrations.

- RNase-/DNase-free
- UV-transparent bottom is molded directly to an acrylic base for greater strength and maximum leak resistance.
- Total well volume: flat bottom – 360 µL; recommended working volume of 75 µL to 200 µL
- UV half area microplate has well volume of 205 µL; working volume of 25 µL to 125 µL.
- Allows UV absorbance readings with low background, especially at 260 nm to 280 nm
- Lids are available separately.

Refer to the Microplate Accessories section for information about microplate accessory products, including sealing tapes and mats.

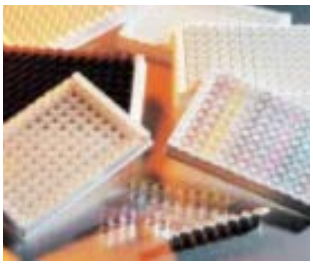
Cat. No.	Format	Well Bottom	Sterile	Qty/Pk	Qty/Cs
3635	Standard	Flat	No	25	50
3679	Half area	Flat	No	25	50

Corning 96-well Clear Flexible Vinyl (PVC) Microplates

- Not treated PVC microplates are economical microplates for solution-based assays, serial dilutions, and general storage applications.
- Well volume of 250 µL (260 µL for V-bottom); working well volume of 50 µL to 150 µL
- Lids are not available.

Cat. No.	Format	Well Bottom	Sterile	Qty/Pk	Qty/Cs
2797	Standard	Round	No	25	100
2897	Standard	V	No	25	100
2595	Standard	Flat	No	25	100

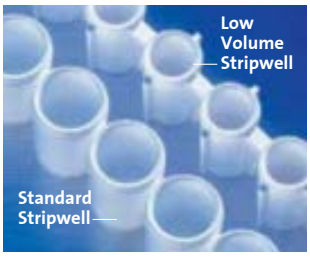
Corning® 96-well Polystyrene Stripwell™ Microplates



Corning Stripwell microplates are designed for *in vitro* diagnostic assays. The flat bottom strips are designed to easily break apart and are pre-assembled in an "egg-crate" style strip holder that allows each individual well to be positioned back into the microplate once broken.

- Stripwell microplates have 96-well flat bottom polystyrene format.
- Low volume and standard Stripwell microplates have well volumes of 190 µL and 360 µL, respectively.
- 1 x 8 strips are designed to fit only one way into the strip holder, eliminating the chance of misorientation.

Refer to the Microplate Accessories section for information about microplate accessory products, including sealing tapes and mats.



Low Volume Stripwell Microplates

Big cost savings!

- Save 70% or more on antibody costs
- Save 50% or more on reagent costs

Features:

- Total well volume: 190 µL
- Recommended working volume: 75 to 125 µL
- Same height/path length as a standard strip
- Standard 96-well center-to-center spacing

Custom Colors

- White
- Dark blue
- Light green
- Light blue
- Teal
- Dark green
- Yellow
- Purple
- Red
- Orange
- Pink
- Black
- Brown
- Grey

Low Volume Stripwell Microplates

Cat. No.	Color	Binding Property	Qty/Pk	Qty/Cs
2480	Clear	Medium	25	100
2481	Clear	High	25	100
2482	Black	Medium	25	100
2483	Black	High	25	100
2484	White	Medium	25	100
2485	White	High	25	100

Standard Stripwell Microplates

Cat. No.	Color	Binding Property	Qty/Pk	Qty/Cs
2592*	Clear	High	25	100
2593*	Clear	Medium	25	100
2580**	Clear	High	200	800
9102***	Clear	TC-treated, sterile	1	50
3913	White	Medium	25	100
3923	White	High	25	100
3914	Black	Medium	25	100
3924	Black	High	25	100

*Product has a certified medium or high bind surface chemistry.
**Individual 1 x 8 strips without frame, bulk packed.
***Microplates individually packaged with lid.

Surface Modified Stripwell Microplates, Clear

Cat. No.	Description	Surface Chemistry	Well Volume (µL)	Qty/Pk	Qty/Cs
2506	DNA-BIND® surface	N-oxysuccinimide	360	1	50
2508	Carbo-BIND surface	Hydrazide	360	1	50
2510	Sulfhydryl-BIND surface	Maleimide	360	1	50

Strip Accessories

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
2572	Strip holder "egg crate"	No	5	20
2578	96-well strip ejector	No	5	5

Color Coding

Corning offers customers the ability to color code their Stripwell microplates. Currently there are 14 colors available from which to choose on both our certified high and medium binding Stripwell microplates. In addition to the clear strip, two other colors can be applied to the same microplate. Color-coded Stripwell microplates are made to order and minimum order requirements do apply. If interested, please contact your local Corning Account Manager.

Corning® 96-well Polypropylene Microplates and Storage Blocks

Corning polypropylene microplates offer both small volume and large volume (blocks) well formats to meet assay and storage requirements.

- Flat, round, or V-shaped well bottom
- Features uniform skirt heights for greater robotic gripping surface
- Solvent resistant polypropylene provides compatibility with many common organic solvents (e.g., DMSO, ethanol, methanol)
- RNase-/DNase-free
- Available sterile or nonsterile

Refer to the Microplate Accessories section for information about microplate accessory products, including sealing tapes and mats.

96-well Polypropylene Microplate Dimensions and Well Volumes

Format/Well Shape	Total Well Volume (µL)	Well Depth (mm)	Well Diameter (mm)	Plate Dimensions (L x W x H) (mm)
96-well flat bottom	360	10.67	6.86	127.76 x 85.48 x 14.22
96-well round bottom	360	11.3	6.86	127.76 x 85.48 x 14.22
96-well V-bottom	320	11.13	6.86	127.76 x 85.48 x 14.22
96-well V-bottom, expanded volume	450	12.43	8.50	127.76 x 85.48 x 14.35
96-well 0.5 mL block	500	25.3	6.86	127.76 x 85.48 x 27.18
96-well 1 mL block	1000	39.9	6.86	127.76 x 85.09 x 41.66
96-well 2 mL block	2000	42.04	8.13	128.27 x 85.85 x 43.94

96-well Polypropylene Microplate

Cat. No.	Format	Color	Well Bottom	Sterile	Qty/Pk	Qty/Cs
3355	Standard	White	Round	No	25	100
3356	Standard	Black	Round	No	25	100
3359	Standard*	Clear	Round	Yes	25	100
3365	Standard*	Clear	Round	No	25	100
3364	Standard	Clear	Flat	No	25	100
3343	Expanded volume	Clear	V	No	10	50
3344	Expanded volume	Clear	V	Yes	10	50
3357	Standard	Clear	V	Yes	25	100
3363	Standard	Clear	V	No	25	100

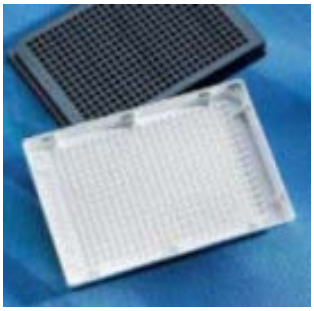
*Upgraded features include virgin clear polypropylene, lowered perimeter ridge for improved sealing, and added rigidity and dimensional stability for improved automated handling.

96-well Polypropylene Storage Block

Cat. No.	Format	Well Volume (mL)	Well Bottom	Sterile	Qty/Pk	Qty/Cs
3958	1 mL round well block	1	Round	Yes	5	25
3959	1 mL round well block	1	Round	No	5	100
3956	0.5 mL round well block	0.5	V	Yes	10	50
3957	0.5 mL round well block	0.5	V	No	10	100
3960	2 mL square well block	2	V	Yes	5	25
3961	2 mL square well block	2	V	No	5	100

For other surface-treated microplates, see the **Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts and Addendum** section.

Corning® 384-well Microplates



Low Volume 384-well Solid Round Bottom Microplates

Unique well design for optimal assay performance:

- Raised well bottom for higher sensitivity
- Raised rim for decreased wicking and contamination
- Round bottom for better Z factor and minimized trapped air
- Conical well molded in the shape of a light cone for efficiency

Corning offers a variety of 384-well microplates for high throughput assays and storage. Microplates are grouped by application:

- 384-well assay microplates
  - General assays – Not treated, nonbinding surface, high binding, and UV microplates
  - Cell-based assays – Tissue culture-treated, Corning® CellBIND® surface, Ultra-Low Attachment surface, and Poly-D-Lysine coated polystyrene microplates
- 384-well polypropylene storage microplates

For information on 384-well microplates for PCR and genomics, see the **Corning Genomics Selection Guide** (CLS-MP-009).

Corning offers a wide variety of assay microplates. They are organized into five groups:

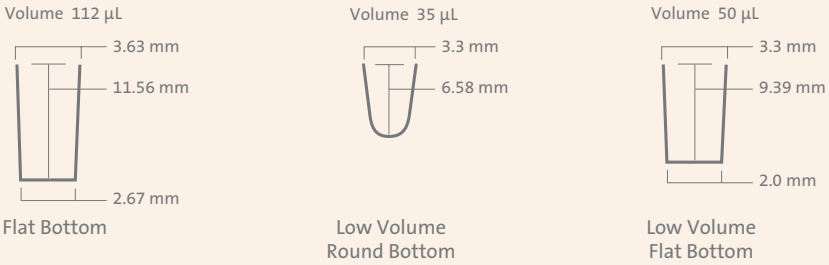
- Clear polystyrene microplates
- Solid black and white polystyrene microplates
- Black and white clear bottom polystyrene microplates
- UV microplates

For assays performed in reduced volumes, Corning 384-well low volume polystyrene microplates are available in solid round bottom and in black clear bottom formats.

384-well Microplate Types	Well Bottom	Total Well Volume (µL)	Recommended Working Volume (µL)
Standard	Flat	112	20 to 80
Low Volume, solid	Round	35	5 to 20
Low Volume, clear bottom	Flat	50	5 to 40

Corning 384-well polystyrene microplates have microplate dimensions (length x width x height) of 127.76 mm x 85.48 mm x 14.22 mm that meet proposed industry standards.

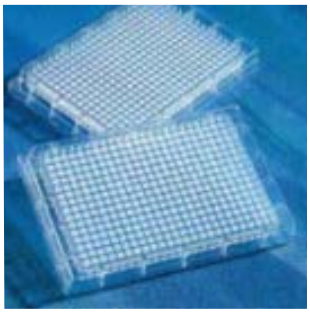
384-well Geometry and Dimensions



Corning 384-well microplates for cell culture include tissue culture-treated, Corning CellBIND surface, and Poly-D-Lysine coated microplates. The tissue culture-treated microplates have the same surface treatment used on other Corning cell culture vessels, while the Poly-D-Lysine treatment improves attachment of anchorage-dependent cells. The Corning CellBIND surface treatment can provide improved consistency and even cell attachment.

For microplate selection process and additional information, see the **Corning® and Falcon® Microplates Selection Guide** (CLS-C-DL-MP-014).

Corning® 384-well Clear Polystyrene Microplates



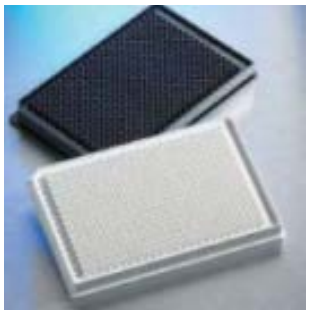
- Total well volume of 112 µL; working well volume of 20 µL to 80 µL
- Cell culture microplates are sterile and nonpyrogenic.
- The 384-well Universal Optics nonbinding surface (NBS) microplate is manufactured using an advanced polymer with high clarity and improved chemical resistant properties.
- Lids available as indicated. (Information on lids and other microplate accessories can be found beginning on page K19).

Cat. No.	Format	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
3640	Standard	Flat	Nonbinding	No	25	100
3640BC	Standard, with bar code labels	Flat	Nonbinding	No	25	100
3844	Standard, with lid	Flat	Poly-D-Lysine	Yes*	20	100
3847	Standard, with lid	Flat	Fibronectin	No	20	100
3680	Standard, with lid	Flat	Not treated	Yes	20	100
3700	Standard	Flat	High Bind	No	25	100
3701	Standard, with lid	Flat	TC-treated	Yes	20	100
3702	Standard	Flat	Not treated	No	25	100
3702BC	Standard, with bar code labels	Flat	Not treated	No	25	100
3723	Universal Optics (standard)	Flat	Nonbinding	No	25	100

*Aseptically manufactured.

Corning 384-well Solid Black and White Polystyrene Microplates

384-well solid low flange microplates



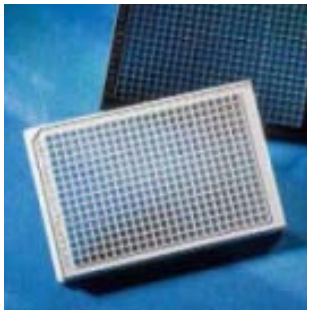
384-well low volume solid microplates

Designed to reduce well-to-well cross-talk during fluorescent and luminescent assays.

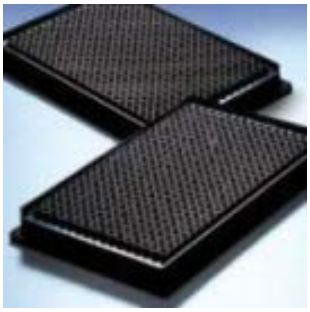
Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
3570	Solid white, with lid	White	Flat	TC-treated	Yes	10	50
3571	Solid black, with lid	Black	Flat	TC-treated	Yes	10	50
3572	Standard, low flange	White	Flat	Not treated	No	10	50
3573	Standard, low flange	Black	Flat	Not treated	No	10	50
3574	Standard, low flange	White	Flat	Nonbinding	No	10	50
3574BC	Standard, low flange, with bar code labels	White	Flat	Nonbinding	No	10	50
3575	Standard, low flange	Black	Flat	Nonbinding	No	10	50
3575BC	Standard, low flange, with bar code labels	Black	Flat	Nonbinding	No	10	50
3820	Low volume	Black	Flat	Nonbinding	No	10	50
3821	Low volume	Black	Flat	Not treated	No	10	50
3821BC	Low volume, with bar code labels	Black	Flat	Not treated	No	10	50
3822	Low volume, with lid	Black	Flat	TC-treated	Yes	10	50
3824	Low volume	White	Flat	Nonbinding	No	10	50
3824BC	Low volume, with bar code labels	White	Flat	Nonbinding	No	10	50
3826	Low volume, with lid	White	Flat	TC-treated	Yes	10	50
3826BC	Low volume, with lid, bar code labels	White	Flat	TC-treated	Yes	10	50

Corning® 384-well Clear Bottom Black and White Polystyrene Microplates

Suited for fluorescent and luminescent assays using either top or bottom detection microplate readers.



384-well clear bottom black and white microplates



384-well low volume black clear bottom microplates

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
3540	Low volume	Black	Flat	Not treated	No	10	50
3542	Low volume, clear bottom, with lid	Black	Flat	TC-treated	Yes	10	50
3544	Low volume	Black	Flat	Nonbinding	No	10	50
3643	Low volume	Black	Flat	Poly-D-Lysine	Yes	10	50
3653	Standard	White	Flat	Nonbinding	No	25	100
3846	Clear bottom, with lid	White	Flat	Poly-D-Lysine	Yes*	20	100
3845	Clear bottom, with lid	Black,	Flat	Poly-D-Lysine	Yes*	20	100
3655	Standard	Black	Flat	Nonbinding	No	25	100
3683	Clear bottom, with lid	Black	Flat	Corning CellBIND®	Yes	10	50
3706	Standard	White	Flat	Not treated	No	25	100
3707	Clear bottom, with lid	White	Flat	TC-treated	Yes	20	100
3711	Standard	Black	Flat	Not treated	No	25	100
3712	Clear bottom, with lid	Black	Flat	TC-treated	Yes	20	100
3827	Clear bottom, with lid	Black	Flat	Ultra-Low Attachment	Yes	20	100
3848	Clear bottom, with lid	Black	Flat	Fibronectin	No	20	100
3819	Clear bottom, with lid	Black	Flat	Collagen	No	20	100
3985	Optical Imaging, with clear bottom and lid	Black	Flat	TC-treated	Yes	20	100
3985BC	Optical Imaging, clear bottom, with lid and bar code labels	Black	Flat	TC-treated	Yes	20	100

*Aseptically manufactured.

Corning 384-well Multicoated Microplates

- Corning 384-well multicoated microplate allows you access to five different surface treatments on a single plate.
- Useful when determining the correct surface for your assay requirements
- Single surface microplates can then be used for the full screen or experiment.
- Surfaces include Poly-D-Lysine, collagen type I, gelatin, fibronectin, and tissue culture-treated.

Cat. No.	Description	Lid	Qty/Cs
3828	384-well, black with clear bottom, multicoated microplate	Yes	10

For other surface-treated microplates, see the **Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts and Addendum** section.

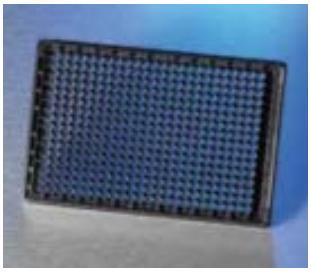
Corning® 384-well Spheroid Microplates

With their novel and proprietary design, these microplates are ideal for generating and analyzing 3D multicellular spheroids in the same microplate. The Ultra-Low Attachment surface enables uniform and reproducible 3D multicellular spheroid formation. The black opaque microplate body shields each optically clear, round bottom well from well-to-well cross-talk.

- Optically clear round bottom with black opaque microplate body
- Covalent attachment of Ultra-Low Attachment surface to reduce cellular adhesion to well surface
- Novel well geometry aids in the generation of uniform, single spheroids across all wells, which enables automated visualization.
- Unique design shields each well to minimize well-to-well cross-talk.
- You can culture and assay spheroids in the same microplate without the need for transfer to a new microplate.

Cat. No.	Description	Qty/Pk	Qty/Cs
3830	Spheroid microplate, black with clear bottom, round, Ultra-Low Attachment surface, sterile	10	50
4516	Spheroid microplate, black with clear bottom, round, Ultra-Low Attachment surface, sterile	5	5

Corning 384-well High Content Screening Microplates with Film Bottom

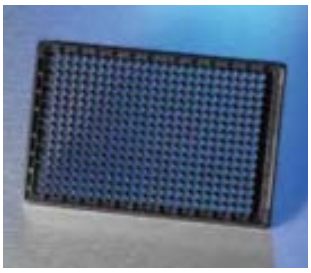


With an ultra-clear film, a 127 µm film thickness, and an unprecedented flatness (whole plate and intra-well), these microplates are ideal for high resolution cellular imaging applications. The microplate and film are manufactured from cyclic olefin copolymer (COC), which has excellent optical properties, chemical resistance, and mechanical stability.

- COC material allows for broad chemical resistance (including DMSO) and high mechanical stability.
- Ultra-clear film with 127 µm thickness is well suited for imaging microscopy.
- Inter- and intra-well film bottom flatness within 50 µm and 10 µm, respectively, optimized for high content applications
- Low auto-fluorescence and birefringence

Cat. No.	Description	Qty/Pk	Qty/Cs
4681	Film bottom, with lid, black with clear bottom, flat, TC-treated, sterile	10	20

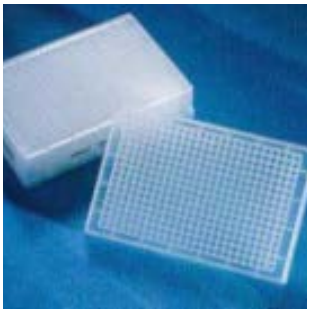
Corning 384-well High Content Screening Microplates with Glass Bottom



High optical quality, glass bottom black microplates are ideal for performing high-content cell-based assays using imaging systems. The glass bottom provides a flat and optically clear surface that reduces autofocus time, increases throughput, and is ideal for cell growth.

- High optical quality and scratch resistant glass
- Glass bottom thickness of 200 µm is well suited for imaging microscopy.
- Bottom flatness <50 µm to ensure planarity for imaging devices
- Low background fluorescence and minimal cross-talk provide the highest possible optical quality for cell-based assays.

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
4581	384-well glass bottom microplate, uncoated, with lid	Yes	1	10
4583	384-well glass bottom microplate, Collagen coated, with lid	No	1	10
4585	384-well glass bottom microplate, Fibronectin coated, with lid	No	1	10
4587	384-well glass bottom microplate, Poly-D-Lysine coated, with lid	No	1	10



Corning® 384-well Polypropylene Storage Microplates

Corning polypropylene microplates offer both small volume and large volume (blocks) well formats to meet assay and storage requirements.

Well bottom	Total Well Volume (µL)	Well Depth (mm)	Well Diameter (mm)	Plate Dimensions (L x W x H) (mm)
Round bottom	95	11.56	3.63	127.76 x 85.48 x 14.22
Round bottom block	180	25.11	3.63	127.76 x 85.48 x 27.81
V-bottom block	240	22.31	3.30*	127.76 x 85.48 x 24.73

*Width of square well.

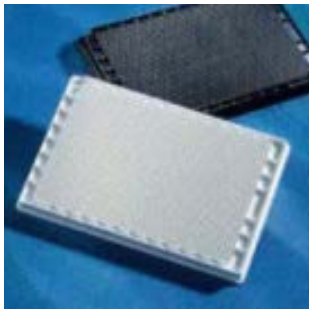
- Resistant to many common organic solvents (e.g., DMSO, ethanol, methanol)
- Black polypropylene microplate (Cat. No. 3658) is ideal for fluorescent assays requiring solvent resistance
- RNase-/DNase-free

Refer to the Microplate Accessories section for information about microplate accessory products, including sealing tapes and mats.

Cat. No.	Format	Well Bottom	Well Volume (µL)	Sterile	Qty/Pk	Qty/Cs
3656	Standard, clear	Round	95	Yes	25	100
3657	Standard, clear	Round	95	No	25	100
3658	Standard, black	Round	95	No	25	100
3964	384-well block, clear	Round	180	Yes	5	25
3965	384-well block, clear	Round	180	No	5	100
3342	384-well block, clear	V	240	Yes	5	50
3347	384-well block, clear	V	240	No	5	50

Corning® 1536-well Microplates

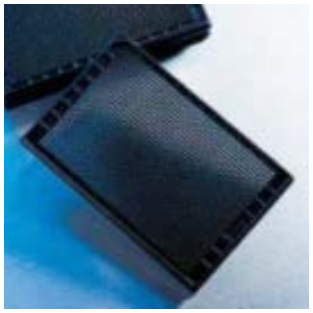
Corning 1536-well microplates are our highest density microplates available for high throughput screening. The microplates conform to standard microplate footprint and dimensions. These microplates are offered in solid black and white polystyrene, with round or flat bottoms, and in black clear bottom formats.



Corning 1536-well Standard Polystyrene Microplates

- Total well volume of 10 µL for round well microplates and 12.8 µL for flat bottom microplates
- Recommended working volume up to 8 µL
- Round well bottom for reduced air entrapment and improved CV values and Z factor
- Raised well bottom for higher sensitivity
- Flood reservoir on four sides to reduce instrument contamination
- Lids are available separately. Corning lid (Cat. No. 3098) is compatible with these microplates.

Refer to the Microplate Accessories section for information about microplate accessory products, including sealing tapes and mats.



1536-well Polystyrene Microplates

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
3936	Standard	Black	Round	Not treated	No	10	50
3937	Standard	White	Round	Not treated	No	10	50
3724	Standard	Black	Flat	Not treated	No	10	50
3724BC	Standard, with bar code labels	Black	Flat	Not treated	No	10	50
3725	Standard	White	Flat	Not treated	No	10	50
3725BC	Standard, with bar code labels	White	Flat	Not treated	No	10	50
3726	Standard, with lid	Black	Flat	TC-treated	Yes	10	50
3726BC	Standard, with lid, bar code labels	Black	Flat	TC-treated	Yes	10	50
3727	Standard, with lid	White	Flat	TC-treated	Yes	10	50
3727BC	Standard, with lid, bar code labels	White	Flat	TC-treated	Yes	10	50
3728	Standard	Black	Flat	Nonbinding	No	10	50
3728BC	Standard, with lid, bar code labels	Black	Flat	Nonbinding	No	10	50
3729	Standard	White	Flat	Nonbinding	No	10	50
3729BC	Standard, with bar code labels	White	Flat	Nonbinding	No	10	50
3731	Standard	White	Flat	Corning CellBIND®	Yes	10	50
3731BC	Standard, with bar code labels	White	Flat	Corning CellBIND	Yes	10	50
3549	Standard, with lid	White	Flat	Collagen	No	10	50
7246	High base, solid, without logo or lettering	Black	Flat	Not treated	No	10	50
7247	High base, solid, without logo or lettering	White	Flat	Not treated	No	10	50
7248	High base, solid, without logo or lettering	Black	Flat	TC-treated	Yes	10	50
7249	High base, solid, without logo or lettering	White	Flat	TC-treated	Yes	10	50
3891	Clear bottom	Black	Flat	Not treated	No	10	50

Continued on next page

For microplate selection process, see the **Corning® and Falcon® Microplates Selection Guide** (CLS-C-DL-MP-014).

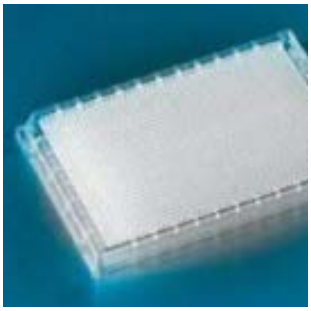
1536-well Polystyrene Microplates (Continued)

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
3891BC	Clear bottom, with bar code labels	Black	Flat	Not treated	No	10	50
3893	Clear bottom, with lid	Black	Flat	TC-treated	Yes	10	50
3893BC	Clear bottom, with lid, bar code labels	Black	Flat	TC-treated	Yes	10	50
3895	Clear bottom	Black	Flat	Nonbinding	No	10	50

1536-well Low Base Polystyrene Microplates

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
3835	Low base, clear bottom, without logo or lettering	Black	Flat	Not treated	No	20	100
3836	Low base, clear bottom, without logo or lettering	Black	Flat	TC-treated	Yes	20	100
3833	Low base, clear bottom, without logo or lettering	Black	Flat	Corning® CellBIND®	Yes	20	100
3831	Low base, clear bottom	Black	Flat	Not treated	No	10	50
3838	Low base, clear bottom	Black	Flat	TC-treated	Yes	10	50
3838BC	Low base, clear bottom, with lid, bar code labels	Black	Flat	TC-treated	Yes	10	50
3832	Low base, clear bottom	Black	Flat	Corning CellBIND	Yes	10	50
3832BC	Low base, clear bottom, with lid, bar code labels	Black	Flat	Corning CellBIND	Yes	10	50

Corning 1536-well Echo™ Qualified Microplate



- Corning Labcyte joint development delivers optimal acoustic performance on the Labcyte Echo 550 Compound Reformatter.
- Microplates are lot tested to meet performance specifications.
- Enhanced flatness provides low intra- and inter-plate CV values.
- Low flange base is designed for bar code customization and robotic handling.

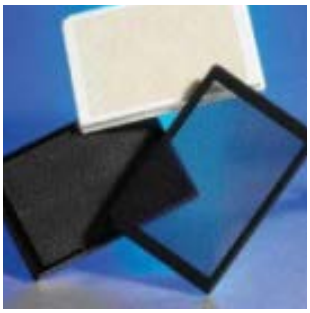
Corning 1536-well Echo Qualified Microplates

Cat No.	Description	Well Bottom	Surface Treatment	Sterile	Qty/Pk	Qty/Cs
3730	1536-well Clear COC	Flat	Not treated	No	10	50

COC = Cyclic olefin copolymer.

For other surface-treated microplates, see the **Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts** section.

Corning® 1536-well Cyclic Olefin Copolymer (COC) Microplates



- Cyclic Olefin Copolymer material
- 127 µm film thickness
- 1536-well low base, clear bottom microplates (black or white with clear bottom)
- Bar coded
- Custom bar codes available for compatibility with the Kalypsys system and with UHTS systems
- Low auto-fluorescence
- Broad chemical resistance including DMSO and alcohol
- High mechanical stability
- Optimized for flatness and uniformity
- Low birefringence
- Coated in a highly controlled, aseptic manufacturing environment to ensure lot-to-lot consistency, assay reproducibility, and contamination control

Cat. No.	Description	Surface Treatment	Sterile	Qty/Pk	Qty/Cs
4560	Black with clear bottom	Not treated	No	20	100
4561	Black with clear bottom	TC-treated	Yes	20	100
4562	Black with clear bottom	Nonbinding	No	20	100
4563	Black with clear bottom	Corning CellBIND®	Yes	20	100
4564	Black with clear bottom	Poly-D-Lysine	No	20	100
4565	Solid black	Not treated	No	10	50
4566	Solid black	TC-treated	Yes	10	50
4567	Solid black	Nonbinding	No	10	50
4570	Solid white	Not treated	No	10	50
4571	Solid white	TC-treated	Yes	10	50
4572	Solid white	Nonbinding	No	10	50

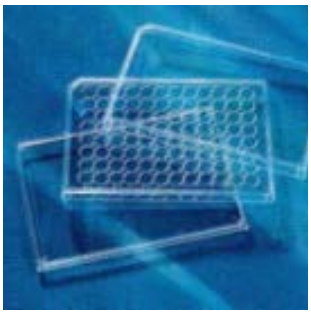
Corning 1536-well Multicoated Microplates

- Corning 1536-well multicoated microplate allows you access to five different surface treatments on a single plate.
- Useful when determining the correct surface for your assay requirements
- Single surface microplates can then be used for the full screen or experiment
- Surfaces include Poly-D-Lysine, collagen type I, gelatin, fibronectin, and tissue culture-treated

Cat. No.	Description	Lid	Qty/Cs
3829	1536-well, black with clear bottom, multicoated microplate	Yes	10

For other surface-treated microplates, see the **Extracellular Matrices, Biologically Coated Surfaces, and Permeable Support Inserts and Addendum** section.

Microplate Accessories



Microplate Lids

- All lids are made of rigid polystyrene except where indicated.
- All lids have a corner notch on the A1 corner (except where indicated) to correspond to the corner notches found on all Corning® microplates.
- The universal lid without a corner notch (Cat. No. 3098) does not need to be oriented in any particular direction to be placed on Corning microplates. The lid also has a shorter skirt than standard lids.
- The black universal lid (Cat. No. 3935) is suitable for fluorescent and other light-sensitive assays.
- The DMSO-resistant cyclic olefin copolymer (COC) lid (Cat. No. 3085) is tinted amber in color for light-sensitive assays and is 100% DMSO-resistant.

Cat. No.	Description	Plate Compatibility	Sterile	Qty/ Pk	Qty/ Cs
3930	Low evaporation lid with corner notch and condensation rings	96-well microplates only (not 2 mL block)	Yes	1	100
3931	Low evaporation lid with corner notch and condensation rings	96-well microplates only (not 2 mL block)	Yes	25	50
3098	Universal lid without corner notch	All microplates	Yes	25	100
3099	Universal lid with corner notch	All microplates	Yes	25	50
3935	Black universal lid with corner notch	All microplates	Yes	25	50
3085	DMSO-resistant COC lid without corner notch	All microplates	No	25	50

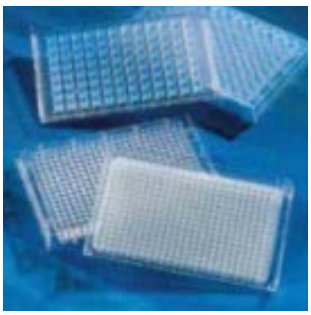
Optimizing Sealing Conditions on Corning Polypropylene Microplates

Corning offers an application note (Corning Literature No. ALSP-AN-011) describing effective sealing with the ABgene® ALPS-100 automated microplate sealer.

Storage Mats and Accessories

- Multiple formats are offered for specific and precise fit on 96-well and 384-well microplates and blocks.
- Storage mats (Cat. Nos. 3080 and 3083) are manufactured from DMSO-resistant EVA (ethyl vinyl acetate) polymer.
- RNase-/DNase-free
- Can be applied manually or with storage mat applicator (Cat. No. 3081)

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
3080	Round well storage mat for 96-well microplates and blocks	No	25	100
3083	Square well storage mat for 2 mL square blocks	No	1	50
3346	Storage mat for expanded volume 96-well microplates	No	10	50
3341	Storage mat for 384-well V-bottom blocks	No	10	50
3081	Storage mat applicator	N/A	1	1

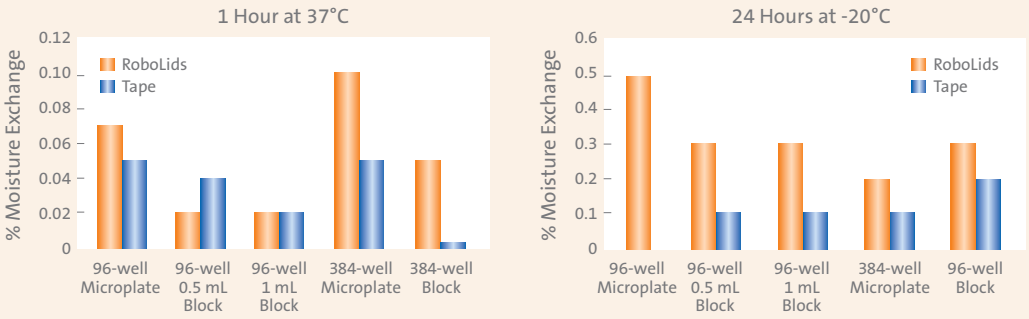


Corning® Robolids

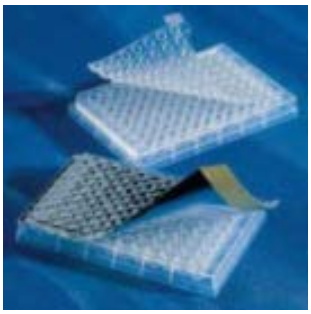
- Combines the sealing ability of a storage mat with the rigidity of a plastic lid
- Designed for repeated application and removal by automation and for preventing short-term evaporation
- Silicone sealing plugs for organic solvent resistance and low extractables
- Can be used manually or with automation

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
3090	96-well Robolid with corner notch	No	25	50
3089	384-well Robolid with corner notch	No	25	50

Moisture Exchange with Corning Robolids



Using 100% DSMO, graphs represent the percentage of moisture exchange over a period of time and at various temperatures using aluminum sealing foil and the Robolid. Results show the 96-well and 384-well Robolid having comparable results with the aluminum foil. Robolids validated for low percentage of moisture exchange similar to that of foil. The product is not recommended to be used in applications requiring an integral seal.



Sealing Tapes

- Easy application and removal for short- and long-term storage
- Provides tight seal to minimize evaporation and condensation
- Aluminum sealing tape (Cat. Nos. 6569 and 6570) is suitable for use between -80°C and 150°C, is not transparent, and is pierceable.
- Breathable sealing tape (Cat. No. 3345) allows gas exchange across the surface.
- Universal Optical sealing tape (Cat. No. 6575) is suitable for use between -70°C and 100°C, and is transparent.

Sealing Tapes

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
6524	Polyethylene sealing tape	No	100	100
6570	Aluminum sealing tape for 96-well microplates	No	100	100
6569	Aluminum sealing tape for 384-well microplates	No	100	100
3345	Breathable sealing tape	Yes	50	500
6575	Universal optical sealing tape	No	100	100

Bar Code Customization

Generic bar code microplate

Generic Bar Codes

Corning now offers a line of generic bar coded microplates to better meet the demands of your screening needs.

- No lead time: microplates are in stock and ready to ship
- Surface identification: The surface treatment of the microplate is identified in the human readable portion of the bar code:

  NT = Not treated
  TC = Tissue culture-treated
  CB = Corning® CellBIND® surface
  NBS = Nonbinding surface
- Labels applied to all 4 sides of the microplate ensure usability regardless of scanner location
- Each microplate is specially treated to reduce the impact of static build-up
- Code 128 bar code format ensures compatibility with most bar code scanning and software systems

Custom Designed Bar Codes

Bar codes have been quality tested for optimal readability, chemical resistance, and temperature durability.

- Fast delivery
- Bulk-packaged microplates for ease of use in automated systems
- Flexible bar code symbologies, such as CODE 128, Code 3 of 9, and ITF 2 of 5
- Flexible bar code positioning so that labels can be left-aligned, center-aligned, or right-aligned
- Non-repeatable bar code sequence prevents label duplication
- Solvent resistance to methanol, DMSO, methylene chloride, and ethyl acetate
- Ability to withstand prolonged exposure to temperatures ranging from -80°C to 121°C
- Sample bar coded plates are provided in order to test compatibility with automated equipment.

Dependable Durability

Bar codes have been quality tested for optimal readability, chemical resistance, and temperature variation.

Expert Advice

Most Corning microplates are suitable for bar code customization. Contact Corning Life Sciences or your local Corning Account Manager for more information.

Technical Appendix

Surface Properties and Applications

Corning® Surface	Applications	Binding Interaction	Sample Properties	Performance Criteria
FOR BIOCHEMICAL ASSAYS				
Nonbinding (NBS) coated polystyrene	◗ SPA assays ◗ Homogeneous assays	None – Inhibits hydrophobic and ionic interactions	Significantly reduces (<2 ng/cm^2) protein and nucleic acid binding	95% reduction of nonspecific binding of protein compared to untreated polystyrene
Medium binding (Not treated) modified polystyrene	◗ Homogeneous (HO) and heterogeneous (HT) assays	Hydrophobic	Large biomolecules >20kD with large or abundant hydrophobic regions	96-well clear: Well-to-well CV ≤5% 96-well black: Well-to-well CV ≤15% (HT) Well-to-well CV ≤3% (HO) 96-well white: Well-to-well CV ≤8% (HT) Well-to-well CV ≤5% (HO) 384-well clear: Well-to-well CV ≤10% (HT) 384-well black and white: Well-to-well CV ≤15% (HT) Well-to-well CV ≤5% (HO)
High binding modified polystyrene	◗ ELISA* and other heterogeneous assays	Hydrophobic and ionic interactions (negatively charged)	Improves binding of medium to large biomolecules (>10kD) that are positively charged with or without hydrophobic regions	96-well clear: Well-to-well CV ≤3% 96-well black: Well-to-well CV ≤8% 96-well white: Well-to-well CV ≤10% 384-well clear: Well-to-well CV ≤10% 384-well black and white: Well-to-well CV ≤15%
Sulfhydryl-BIND™ modified polystyrene	◗ Assays requiring site-directed orientation of a particular biomolecule, especially antibodies	Allows covalent immobilization via SH moieties on maleimide groups	Biomolecules possessing an accessible sulfhydryl group or reducible disulfide bond	CV ≤15% Activated/non-activated ≥ 2.0 Activated = reduced disulfide bonds
Carbo-BIND modified polystyrene	◗ Assays requiring site-directed orientation of a particular biomolecule (oxidized antibodies, carbohydrates, and glycosylated proteins) while maintaining enzymatic or immunological activity	Allows covalent immobilization via binding to hydroxide groups	Biomolecules possessing carbohydrate moieties available for periodate activation	CV ≤15% Activated/non-activated ≥ 3.0 Activated = periodate activation
FOR CELL-BASED ASSAYS				
Standard Tissue Culture-treated	◗ Assays using standard attachment-dependent cell lines	Hydrophilic and ionic interactions (negatively charged)	Allows cell attachment and binding	≥95% confluency (attachment-dependent cell line)
Corning CellBIND®	◗ Assays for difficult to attach cells ◗ Help cells stay attached during washing steps	Hydrophilic and ionic interactions (negatively charged)	Enhances cell attachment uniformity and binding to polystyrene	96-well: CV ≤10% 384-well: CV ≤20%
Poly-D-Lysine-coated	◗ Assays for difficult to attach cells ◗ Help cells stay attached during washing steps	Hydrophilic and ionic interactions (positively charged)	Enhances cell attachment and binding	96-well: CV ≤15% 384-well: CV ≤20%
Ultra-Low Attachment	◗ Assays where preventing cell attachment is required ◗ Hybridoma production and clonal isolation by limiting dilution	Non-ionic hydrogel layer reduces or eliminates ionic and hydrophobic binding	Prevents or reduces cell attachment and binding	≥95% cell attachment inhibition

*ELISA = Enzyme-linked immunosorbent assay.

Choose the Corning Surface Treatment

Corning offers polystyrene microplates with a variety of modified surfaces. These surfaces can support binding or covalent immobilization of cells, proteins, nucleic acids, and other biomolecules.

	Microplate Format					
Surface Treatment	**96-well**	**96-well Stripwell™**	**Half Area 96-well**	**384-well**	**Low Volume 384-well**	**1536-well**
For General Assay						
Not treated (medium binding)	■	■	■	■	■	■
High binding	■	■	■	■	■	
Nonbinding	■		■	■	■	■
Sulfhydryl (Sulfhydryl-BIND) binding	■	■				
Carbohydrate (Carbo-BIND) binding	■	■				
For Cell Culture						
Tissue Culture (TC)-treated	■	■	■	■	■	■
Ultra-Low Attachment surface	■			■		
Corning CellBIND surface	■			■		■
Poly-D-Lysine	■			■		

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Notes

ECM Mimetic and Advanced Surfaces – Corning® BioCoat™ and PureCoat™ Cultureware

Corning 96-well BioCoat and PureCoat Microplates

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/Pk	Qty/Cs
354407	BioCoat, with lid	Clear	Flat	Collagen I	Yes	5	5
356407	BioCoat, with lid	Clear	Flat	Collagen I	Yes	5	50
356698	BioCoat, with lid	Clear	Flat	Collagen I	Yes	20	80
354429	BioCoat, with lid	Clear	Flat	Collagen IV	Yes	1	50
354461	BioCoat, with lid	Clear	Flat	Poly-D-Lysine	Yes	5	5
356461	BioCoat, with lid	Clear	Flat	Poly-D-Lysine	Yes	5	50
356690	BioCoat, with lid	Clear	Flat	Poly-D-Lysine	Yes	20	80
354409	BioCoat, with lid	Clear	Flat	Fibronectin	Yes	1	5
354689	BioCoat, with lid	Clear	Flat	Gelatin	Yes	1	5
356689	BioCoat, with lid	Clear	Flat	Gelatin	Yes	1	50
354410	BioCoat, with lid	Clear	Flat	Laminin	Yes	1	5
354670	BioCoat, with lid	Clear	Flat	Laminin/Fibronectin	Yes	1	5
354596	BioCoat, with lid	Clear	Flat	Laminin/Poly-D-Lysine	Yes	1	5
354657	BioCoat, with lid	Clear	Flat	Laminin/ Poly-L-Ornithine	Yes	1	5
354516	BioCoat, with lid	Clear	Flat	Poly-L-Lysine	Yes	5	5
356516	BioCoat, with lid	Clear	Flat	Poly-L-Lysine	Yes	5	50
354607	BioCoat, with lid	Clear	Flat	Corning Matrigel® matrix	Yes	5	5
354519	BioCoat, with lid	White	Flat	Collagen I	Yes	5	5
356519	BioCoat, with lid	White	Flat	Collagen I	Yes	5	50
356699	BioCoat, with lid	White	Flat	Collagen I	Yes	20	80
354620	BioCoat, with lid	White	Flat	Poly-D-Lysine	Yes	5	5
356620	BioCoat, with lid	White	Flat	Poly-D-Lysine	Yes	5	50
356691	BioCoat, with lid	White	Flat	Poly-D-Lysine	Yes	20	80
354650	BioCoat, with lid	White/clear	Flat	Collagen I	Yes	5	5
356650	BioCoat, with lid	White/clear	Flat	Collagen I	Yes	5	50
356701	BioCoat, with lid	White/clear	Flat	Collagen I	Yes	20	80
354651	BioCoat, with lid	White/clear	Flat	Poly-D-Lysine	Yes	5	5
356651	BioCoat, with lid	White/clear	Flat	Poly-D-Lysine	Yes	5	50
356693	BioCoat, with lid	White/clear	Flat	Poly-D-Lysine	Yes	20	80
354649	BioCoat, with lid	Black/clear	Flat	Collagen I	Yes	5	5
356649	BioCoat, with lid	Black/clear	Flat	Collagen I	Yes	5	50
356700	BioCoat, with lid	Black/clear	Flat	Collagen I	Yes	20	80
354640	BioCoat, with lid	Black/clear	Flat	Poly-D-Lysine	Yes	5	5
356640	BioCoat, with lid	Black/clear	Flat	Poly-D-Lysine	Yes	5	50
356692	BioCoat, with lid	Black/clear	Flat	Poly-D-Lysine	Yes	20	80
354717	PureCoat, with lid	Black/clear	Flat	Amine	Yes	5	5
356717	PureCoat, with lid	Black/clear	Flat	Amine	Yes	5	50

Corning® 384-well BioCoat™ and Corning PureCoat™ Microplates

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ Cs
354666	BioCoat, with lid	Clear	Flat	Collagen I	Yes	5	5
356666	BioCoat, with lid	Clear	Flat	Collagen I	Yes	5	50
354662	BioCoat, with lid	Clear	Flat	Poly-D-Lysine	No	5	5
356662	BioCoat, with lid	Clear	Flat	Poly-D-Lysine	No	5	50
354665	BioCoat, with lid	White	Flat	Collagen I	Yes	5	5
356665	BioCoat, with lid	White	Flat	Collagen I	Yes	5	50
356703	BioCoat, with lid	White	Flat	Collagen I	No	20	80
354661	BioCoat, with lid	White	Flat	Poly-D-Lysine	No	5	5
356661	BioCoat, with lid	White	Flat	Poly-D-Lysine	No	5	50
354664	BioCoat, with lid	White/clear	Flat	Collagen I	Yes	5	5
356664	BioCoat, with lid	White/clear	Flat	Collagen I	Yes	5	50
356702	BioCoat, with lid	White/clear	Flat	Collagen I	No	20	80
354660	BioCoat, with lid	White/clear	Flat	Poly-D-Lysine	No	5	5
356660	BioCoat, with lid	White/clear	Flat	Poly-D-Lysine	No	5	50
354667	BioCoat, with lid	Black/clear	Flat	Collagen I	Yes	5	5
356667	BioCoat, with lid	Black/clear	Flat	Collagen I	No	5	50
356705	BioCoat, with lid	Black/clear	Flat	Collagen I	No	20	80
354663	BioCoat, with lid	Black/clear	Flat	Poly-D-Lysine	No	5	5
356663	BioCoat, with lid	Black/clear	Flat	Poly-D-Lysine	No	5	50
356697	BioCoat, with lid	Black/clear	Flat	Poly-D-Lysine	No	20	80
354719	PureCoat,with lid	Black/clear	Flat	Amine	No	5	5
356719	PureCoat,with lid	Black/clear	Flat	Amine	No	5	50
354397	BioCoat, small volume, with lid	Black/clear	Flat	Collagen I	No	5	5
356397	BioCoat, small volume, with lid	Black/clear	Flat	Collagen I	No	5	50
354396	BioCoat, small volume, with lid	Black/clear	Flat	Poly-D-Lysine	No	5	5
356396	BioCoat, small volume, with lid	Black/clear	Flat	Poly-D-Lysine	No	5	50

Corning 1536-well BioCoat and PureCoat Microplates

Cat. No.	Format	Color	Well Bottom	Surface Treatment	Sterile	Qty/ Pk	Qty/ /Cs
354022	BioCoat, with lid (high base)	Black/clear	Flat	Poly-D-Lysine	No	5	5
356022	BioCoat, with lid (high base)	Black/clear	Flat	Poly-D-Lysine	No	5	50
354771	PureCoat, with lid (high base)	Black/clear	Flat	Amine	Yes	5	5
356771	PureCoat, with lid (high base)	Black/clear	Flat	Amine	Yes	5	50

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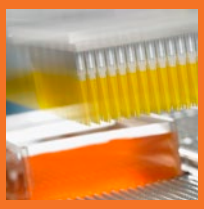
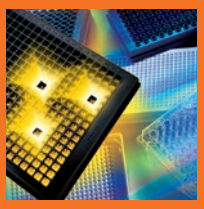


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