

The ibidi product family is comprised of a variety of μ-Slides and μ-Dishes, which have all been designed for high-end microscopic analysis of fixed or living cells. The high optical quality of the material is similar to that of glass, so you can perform all kinds of fluorescence experiments with uncompromised resolution and choice of wavelength.

The μ-Slide VI^{0.1} is designed for flow assays in a minimal volume. It can be connected to a pump and enables you to observe cells under flow conditions. The small dimensions offer you the possibility to work with a minimum of cells (e.g. mouse model). The convenient six channel format is ideal for the application of standard protocols for e.g. treatment, staining, and microscopy of living or fixed cells.

Material

ibidi μ-Slides, μ-Dishes, and μ-Plates are made of a plastic that has the highest optical quality. The polymer coverslip on the bottom exhibits extremely low birefringence and autofluorescence, similar to that of glass. Also, it is not possible to detach the bottom from the upper part. The μ-Slides, μ-Dishes, and μ-Plates are not autoclavable, since they are only temperature-stable up to 80°C/175°F. Please note that gas exchange between the medium and incubator's atmosphere occurs partially through the polymer coverslip, which should not be covered.

Optical Properties ibidi Polymer Coverslip

Refractive index n_D (589 nm)	1.52
Abbe number	56
Thickness	No. 1.5 (180 μm)
Material	Polymer coverslip

Please note! The ibidi Polymer Coverslip is compatible with certain types of immersion oil only. A list of suitable oils can be found on page 3.

Shipping and Storage

The μ-Slides, μ-Dishes and μ-Plates are sterilized and welded in a gas-permeable packaging. The shelf life under proper storage conditions (in a dry place, no direct sunlight) is listed in the following table.

Conditions

Shipping conditions	Ambient
Storage conditions	RT (15-25°C)

Shelf Life

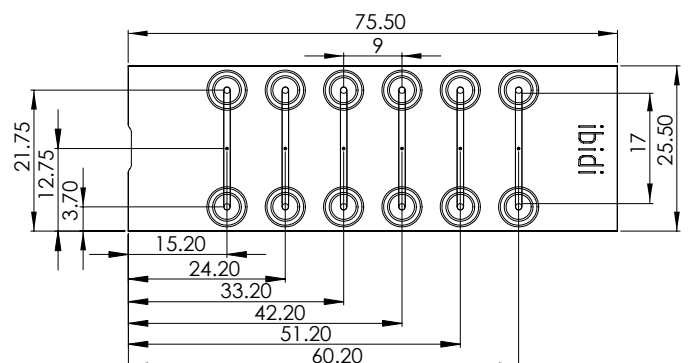
ibiTreat, Uncoated	36 months
Collagen IV	18 months

Geometry

The μ-Slide VI^{0.1} provides a standard slide format according to ISO 8037/1. The lateral adapter to adapter distance of 9 mm (like 96 well plates) allows using multichannel pipettes.

Dimensions

Outer dimensions	25.5 mm x 75.5 mm
Adapters	Female Luer
Number of channels	6
Channel volume	1.7 μl
Channel height	0.1 mm
Channel length	17 mm
Channel width	1.0 mm
Volume per reservoir	60 μl
Growth area	0.17 cm ² per channel
Coating area using 1.7 μl	0.34 cm ² per channel
Bottom matches coverslip	No. 1.5



Surface

The tissue culture-treated ibiTreat surface is a physical surface modification and optimized for adhesion of most cell types. The uncoated surface is a very hydrophobic surface and allows no direct cell growth. It is suitable for specific coatings or suspension cells.

If you like to establish a particular coating for your demands we recommend testing your coating procedure on uncoated and ibiTreat surfaces, since some proteins and biomolecules adhere differently to hydrophobic or hydrophilic polymer surfaces.

Coating

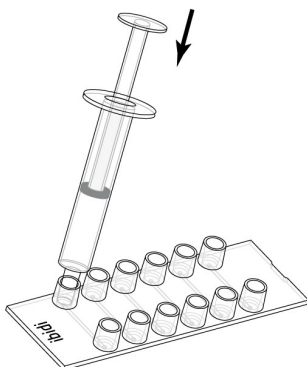
Detailed information about coatings is provided in [Application Note 08 Cell culture coating](#).

In short, specific coatings are possible following this protocol:

1. Prepare your coating solution according to the manufacturer's specifications or reference.
2. Apply 1.7 μl and leave at room temperature for at least 30 minutes.
3. Aspirate the solution and wash with the recommended protein dilution buffer.
4. The μ-Slide VI^{0.1} is ready to be used. Optionally let dry at room temperature. Attention, some coating proteins might degenerate when drying!

Filling and Handling

Filling the very small channels of μ-Slide VI^{0.1}, especially hydrophobic uncoated, by a normal pipette might be challenging. Use a 20 μl pipet and directly inject into the channel opening. Optionally, use a small volume syringe with a Luer tip for convenient filling the channels with coating solution or cell suspension.



Seeding Cells

- Trypsinize and count cells as usual. Dilute the cell suspension to the desired concentration. Depending on your cell type, application of a $12\text{--}28 \times 10^5$ cells/ml suspension should result in a confluent layer within 2–3 days.
- Apply 1.7 μl cell suspension into the channel of the μ-Slide. Quick dispensing helps to avoid trapped air bubbles.
- Cover reservoirs with the supplied lid. Incubate at 37°C and 5% CO₂ as usual.
- Await cell attachment in order not to flush out the cells. Afterwards fill each reservoir with 60 μl cell free medium.
- Connect the μ-Slide to the pump and conduct your perfusion experiment.

Tip:

The day before seeding the cells we recommend placing the cell medium and the μ-Slide into the incubator for equilibration. This will prevent the liquid inside the channel from emerging air bubbles over the incubation time.

Important!

After coating the μ-Slide with a coating that must not be dried, seed cells without emptying the channel: First, aspirate all remaining liquid from both reservoirs. Do not empty the channel. Then, fill 6 μl of cell suspension onto one channel opening inside a Luer reservoir. After that, slowly remove 6 μl from the opposite Luer reservoir. Make sure to avoid trapped air bubbles.

Exchanging Medium

Aspirate both reservoirs and slowly fill 60 μl of fresh medium into each of the reservoirs. The equilibration of the liquid levels may take some minutes because of the small width of the channel.

Important!

Please note that the μ-Slide VI^{0.1} is not for use in static culture due to the small channel volume. Cultivation without perfusion is only possible by a medium exchange every few hours or by using a rocker which constantly generates a slight medium flow between the two reservoirs.

Preparation for Cell Microscopy

To analyze your cells, no special preparations are necessary. Cells can be observed live, or fixed directly in the μ-Slide preferably on an inverted microscope. Due to the thin bottom of only 180 μm, high resolution microscopy is possible. You can use any fixative of your choice. The μ-Slide material is compatible with a variety of chemicals, e.g., PFA, acetone or methanol. Further information on solvent and chemical compatibility can be found in the FAQ section on www.ibidi.com.

Immersion Oil

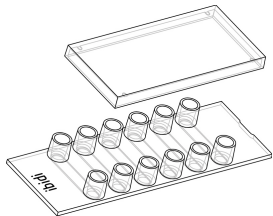
When using oil immersion objectives with the ibidi Polymer Coverslip, use only the immersion oils specified in the table below. The use of any non-recommended oil could damage the ibidi Polymer Coverslip. The resulting leakage may harm objectives and microscope components. All immersion oils that are not listed in the table below should be considered as non-compatible.

Company	Product	Ordering No.	Lot Number	Test Date
ibidi	ibidi Immersion Oil	50101	16-12-27	01/2017
Zeiss	Immersion Oil 518 F	444960	160706	01/2017
Zeiss	Immersion Oil W 2010	444969	101122	04/2012
Leica	Immersion Liquid	11513859	n.a.	03/2011
Cargille	Type A	16482	100592	01/2017
Cargille	Type HF	16245	92192	01/2017
Olympus	Silicone Immersion Oil	SIL300CS-30CC	N4190800	01/2017
Carl Roth	Immersion oil	X899.1	414220338	01/2017

Ordering Information

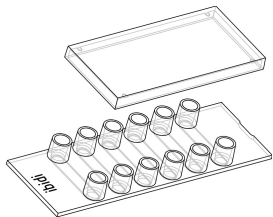
The μ-Slide VI family is available in different surfaces and bottom characteristics. See table below for choosing your μ-Slide VI.

μ-Slide VI^{0.4}



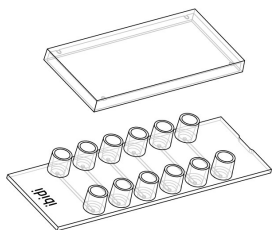
Cat. No.	Description
80606	μ-Slide VI ^{0.4} ibiTreat : #1.5 polymer coverslip, tissue culture treated, sterilized
80606-90	μ-Slide VI ^{0.4} ibiTreat, Bulk Pack : #1.5 polymer coverslip, tissue culture treated, sterilized
81602	μ-Slide VI ^{0.4} Collagen IV : #1.5 polymer coverslip, sterilized
81604	μ-Slide VI ^{0.4} Poly-L-Lysine : #1.5 polymer coverslip, sterilized
81601	μ-Slide VI ^{0.4} Uncoated : #1.5 polymer coverslip, hydrophobic, sterilized

μ-Slide VI^{0.5} Glass Bottom



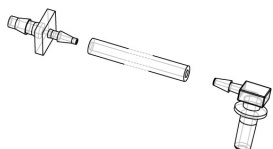
Cat. No.	Description
80607	μ-Slide VI ^{0.5} Glass Bottom : 1.5H (170 μm ±5 μm) D 263 M Schott glass, sterilized

μ-Slide VI^{0.1}



Cat. No.	Description
80666	μ-Slide VI ^{0.1} ibiTreat : #1.5 polymer coverslip, tissue culture treated, sterilized
80662	μ-Slide VI ^{0.1} Collagen IV : #1.5 polymer coverslip, sterilized
80661	μ-Slide VI ^{0.1} Uncoated : #1.5 polymer coverslip, hydrophobic, sterilized

Tube Adapter Set



Cat. No.	Description
10831	Tube Adapter Set : sterilized

For research use only!

Further technical specifications can be found at www.ibidi.com. For questions and suggestions please contact us by e-mail info@ibidi.de or by telephone +49 (0)89/520 4617 0. All products are developed and produced in Germany.

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