

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 convenient six channel format of the μ-Slide VI^{0.4} is ideal for static cell cultivation and the application of standard immunofluorescence protocols, like treatment, staining, and microscopy of living or fixed cells. Alternatively, the μ-Slide VI^{0.4} can be connected to a pump and enables you to observe cells under flow conditions.

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.

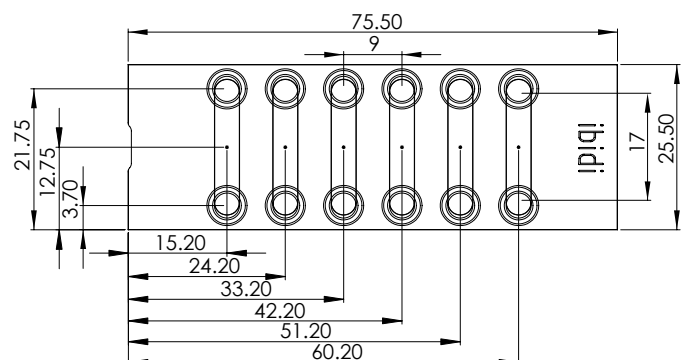
Conditions	
Shipping conditions	Ambient
Storage conditions	RT (15–25°C)
Shelf Life	
ibiTreat, Uncoated	36 months
Collagen IV, Poly-L-Lysine	18 months

Geometry of the μ-Slide VI^{0.4}

The μ-Slide VI^{0.4} 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	30 μl
Channel height	0.4 mm
Channel length	17 mm
Channel width	3.8 mm
Volume per reservoir	60 μl
Growth area	0.6 cm ² per channel
Coating area using 30 μl	1.2 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.

The μ-Slide VI^{0.4} is also provided with a Collagen and a Poly-L-Lysin coated surface. Such an adhesion substrate has been shown to stimulate the adhesion and growth of various cell lines in μ-Slides. A high quality Collagen IV solution (Corning #356233) and Poly-L-Lysin solution (Sigma #P4832) is used to pre-coat the slides.

Coating

Detailed information about coatings is provided in [Application Note 08: Coating protocols for ibidi labware products](#).

In short, specific coatings are possible following this protocol:

1. Prepare your coating solution according to the manufacturer's specifications or reference.
2. Apply 30 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^{0.4} is ready to be used. Optionally let dry at room temperature. Attention, some coating proteins might degenerate when drying!

Tip:

For washing you can add the buffer into one channel end and simultaneously aspirate it on the other side.

Seeding Cells

- Trypsinize and count cells as usual. Dilute the cell suspension to the desired concentration. Depending on your cell type, application of a $3-7 \times 10^5$ cells/ml suspension should result in a confluent layer within 2-3 days.
- Apply 30 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.

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.

Trapped air bubbles can be removed from the channel by inclining the μ-Slide and knocking at one edge.

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 120 μl of cell suspension into one of the reservoirs. After that, slowly remove 120 μl from the opposite reservoir. Make sure to avoid trapped air bubbles.

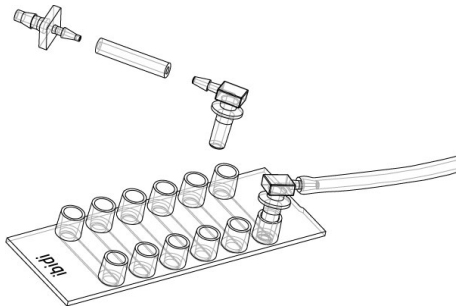
Exchanging Medium

Aspirate both reservoirs and fill slowly 120 μl of fresh medium into one of the reservoirs, which will replace the channel volume by gravity flow.

Flow Application

Detailed information about flow rates, shear stress, and shear rates is provided in [Application Note 11 "Shear stress and shear rates"](#) on www.ibidi.com

Suitable Tube Adapter Sets are also available (see page 4). They consist of a tubing (20 cm) with inner diameter of 1.6 mm and adapters for the connection between the ibidi μ-Slide (female Luer) and the tubing of the pump in use.



Please contact us for recommended perfusion setups. ibidi provides a variety of channel slides and pump systems.

Microscopy

To analyze your cells, no special preparations are necessary. Cells can be directly observed live or fixed, preferably on an inverted microscope. The bottom cannot be removed. For optimal results in fluorescence microscopy and storage of fixed and stained samples, ibidi provides

a mounting medium (50001) optimized for μ-Dishes, μ-Slides, and μ-Plates.

Chemical Compatibility

The table below provides some basic information on the chemical and solvent compatibility of the μ-Slide VI^{0.4}. For a full list of compatible solvents and more information on chemical compatibility, please visit the FAQ section on ibidi.com.

Chemical / Solvent	Compatibility
Methanol	yes
Ethanol	yes
Formaldehyde	yes
Acetone	yes, without lid
Mineral oil	no
Silicone oil	yes
Immersion oil	See Immersion Oil on page 3.

Immersion Oil

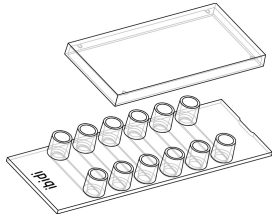
When using oil immersion objectives with the ibidi Polymer Coverslip, use only the immersion oils specified in the table below. The use of any non-recommended oil could damage the ibidi Polymer Coverslip. The resulting leakage may harm objectives and microscope components. All immersion oils that are 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	Immersol 518 F	444960	160706	01/2017
Zeiss	Immersol 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

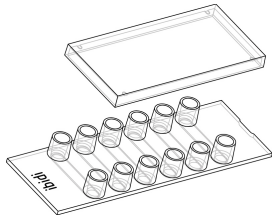
The μ-Slide VI family is available in different surfaces and bottom characteristics. See table below for choosing your μ-Slide VI.

μ-Slide VI^{0.4}



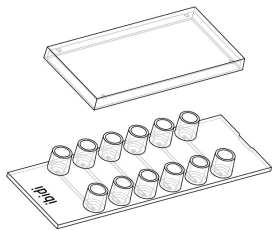
Cat. No.	Description
80606	μ-Slide VI ^{0.4} ibiTreat : #1.5 polymer coverslip, tissue culture treated, sterilized
80606-90	μ-Slide VI ^{0.4} ibiTreat, Bulk Pack : #1.5 polymer coverslip, tissue culture treated, sterilized
81602	μ-Slide VI ^{0.4} Collagen IV : #1.5 polymer coverslip, sterilized
81604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



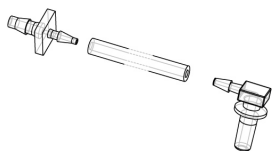
Cat. No.	Description
80607	μ-Slide VI ^{0.5} Glass Bottom : 1.5H (170 μm ±5 μm) D 263 M Schott glass, sterilized

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.

© ibidi GmbH, Lochhamer Schlag 11, 82166 Gräfelfing, Germany.