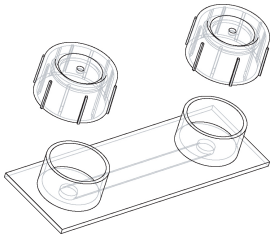


The ibidi product family is comprised of a variety of µ–Slides and µ–Dishes, which have all been designed for high–end microscopic analysis of fixed or living cells. The high optical quality of the material is similar to that of glass, so you can perform all kinds of fluorescence experiments with uncompromised resolution and choice of wavelength. The µ-Slide I combines the features of a cell culture dish with those of a glass cover slip. One flow through observation channel is integrated in the µ-Slide. Its large observation area and high-end optical quality permits convenient monitoring of a vast variety of cellular assays.

Material

ibidi µ–Slides, µ–Dishes, and µ–Plates are made of a plastic that has the highest optical quality. The bottom material 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 plastic bottom, which should not be covered.

Optical Properties ibidi Standard Bottom	
Refractive index n_D (589 nm)	1.52
Abbe number	56
Thickness	No. 1.5 (180 µm)
Material	microscopy plastic

Please note! The ibidi standard bottom is compatible with certain types of immersion oil only. A list of suitable oils can be found on page 2.

µ–Slide Surfaces

Depending on the type of cells and the special application you are using, you will need µ–Slides with different surfaces. If you do not require any special adhesion molecules for your application, the best choice will be ibiTreat, a tissue culture treated surface.

We provide precoated µ–Slides with adhesion substrates like Collagen IV, Fibronectin, Poly–L–Lysin, and Poly–D–Lysin. Such adhesion substrates have been shown to stimulate the adhesion and growth of various cell lines in µ–Slides. Only high–quality substrates are used [1].

The uncoated µ–Slide is manufactured from hydrophobic plastic. For the cultivation of most cell lines, it is indispensable to treat the uncoated µ–Slide with biopolymers, which mediate cell adhesion and growth.

Geometry of the µ–Slide I

The µ–Slide I provides a standard slide format according to ISO 8037/1.

Geometry of the µ–Slide I	
Number of Channels	1
Channel volume	100 µl
Channel length	50 mm
Channel width	5.0 mm
Channel height	0.4 mm
Volume per reservoir	600 µl
Growth area	2.5 cm^2 per channel
Coating area using 100 µl	5.4 cm^2 per channel
Bottom matches coverslip	No. 1.5

Coating your µ–Slide I

The uncoated µ–Slide must be coated to promote cell adhesion. If you want to establish a certain coating to match your needs, we recommend testing your coating procedure on both uncoated and ibiTreat µ–Slides, since we have observed that some biomolecules adhere differently to hydrophobic and hydrophilic plastic surfaces.

- Prepare your coating solution according to the manufacturer's specifications or reference.
- Apply 100 µl per channel and leave at room temperature for at least 30 minutes.
- Aspirate the solution and wash with the recommended protein dilution buffer. You can add the buffer into one channel end and simultaneously aspirate it on the other side.
- Optionally, let dry at room temperature. Attention, some coating proteins might degenerate when drying!

Further information about coatings is provided in Application Note 08 Cell culture coating.

[1] Collagen IV: Corning #356233, Fibronectin: Corning #354008, Poly–L–Lysin: Sigma #P4832, Poly–D–Lysin: Corning #354210

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 × 10^5 cells/ml suspension should result in a confluent layer within 2–3 days.
- Apply 100 µl cell suspension into the channel of the µ–Slide. Quick dispensing helps to avoid trapped air bubbles.
- Cover reservoirs loosely with the supplied caps. Incubate at 37°C and 5 % CO_2 as usual.
- After cell attachment fill 600 µl cell free medium into each reservoir.

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 bubbles can be removed from the channel by inclining the µ–Slide and knocking at one edge.
Further information is provided in Application Note 03 "Growing cells in µ–channels".

For flow applications we recommend using µ–Slide I Luer or µ–Slide VI $^{0.4}$.

Exchanging Medium

Aspirate both reservoirs and fill slowly 1.2 ml of fresh medium into one of the reservoirs, which will replace the channel volume by gravity flow.

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 on an inverted microscope. You can use any fixative of your choice. The µ–Slide material is compatible with a variety of chemicals (e.g., Acetone or Methanol). Further specifications can be found at www.ibidi.com. Due to the thin bottom of only 180 µm, high resolution microscopy is possible.

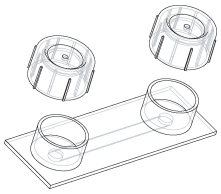
Immersion Oil

When using oil immersion objectives, use only the immersion oils specified in the table. The use of a non–recommended oil could lead to the damage of the plastic material and the objective.

Company	Product	Ordering Number
ibidi	Immersion Oil	(ibidi) 50101
Zeiss	Immersol 518 F	(Zeiss) 444960
Zeiss	Immersol W 2010	(Zeiss) 444969
Leica	Immersion liquid	(Leica) 11513859

µ–Slide I Family

The µ–Slide I family is available with different surfaces. See table below for choosing your µ–Slide I.



Ordering Number	Treatment or Coating	Characteristics
80106	ibiTreat, tissue culture treated, sterile	hydrophilic, tissue culture treated
80101	Collagen IV, sterile	protein coating
80102	Fibronectin, sterile*	protein coating
80110	Poly–L–Lysine, sterile	biopolymer coating
80115	Poly–D–Lysine, sterile*	biopolymer coating
80111	uncoated, sterile	hydrophobic

* available on request only.

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.