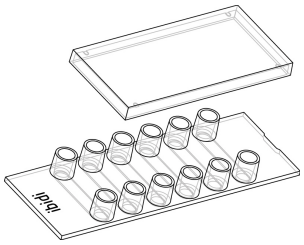


The ibidi product family is comprised of a variety of µ–Slides and µ–Dishes, which have all been designed for high–end microscopic analysis of fixed or living cells.

The glass bottom versions of the µ–Slides and µ–Dishes are especially designed for TIRF, super resolution and single molecule applications. The µ–Slide VI 0.5 Glass Bottom allows you to perform high resolution microscopy in a volume-saving channel format.

The convenient six channel format of the µ–Slide VI 0.5 Glass Bottom 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 0.5 Glass Bottom can be connected to a pump and enables you to observe cells under flow conditions.

Material

The glass bottom version of the µ–Slides are made of a standard µ–Slide but with a glass coverslip bottom. It is not possible to detach the bottom. The µ–Slides are not autoclavable since they are temperature stable only up to 80°C / 175°F.

Optical Properties ibidi Glass Bottom	
Refractive index n_D	1.523
Abbe number	55
Thickness	No. 1.5H (selected quality 170 µm, ± 5 µm)
Material	Schott borosilicate glass, D 263M

Attention!

Be cautious when handling ibidi labware products with glass bottom! The glass coverslip or glass slide is very fragile and might break easily. Handle with care to avoid physical injury and damage to devices through leakage of the medium.

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 of Different Surfaces	
ibiTreat, Glass Bottom, ESS	36 months
Collagen, Poly-L-Lysine	18 months

Geometry of the µ–Slide VI 0.5 Glass Bottom

The µ–Slide VI 0.5 Glass Bottom 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	
Number of Channels	6
Channel volume	40 µl
Channel length	17 mm
Channel width	3.8 mm
Channel height	0.54 mm
Adapters	female Luer
Volume per reservoir	60 µl
Growth area	0.6 cm^2 per channel
Coating area using 40 µl	1.2 cm^2 per channel
Bottom matches coverslip	No. 1.5H

Surface and Coating

The Glass Bottom Slides are manufactured with an uncoated glass coverslip. Washing steps (e.g. with PBS) before cell seeding can remove glass dust which is advantageous for direct cell growth on the surface.

Protein coatings increase direct cell growth of adherent cells. Specific coatings on glass are possible following this protocol:

- Prepare your coating solution according to the manufacturer's specifications or reference.
- Prepare your µ–Slide VI 0.5 Glass Bottom. Adjust the concentration to a coating area of 1.2 cm^2 and a coating volume of 40 µl.
- Apply 40 µl into the well/channel.
- **Open wells:** Make sure that the entire bottom is covered with liquid by slightly tilting or shaking the µ–Slide.
- **Channel Slides:** Make sure the entire channel is filled without including air bubbles.
- Put on the lid and leave at room temperature for at least 30 minutes.
- Aspirate the solution and wash with the recommended protein dilution buffer. Optionally, let dry at room temperature. Attention, some coating proteins might degenerate when drying!

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

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 2–5 × 10^5 cells/ml suspension should result in a confluent layer within 2–3 days.
- Apply 40 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 % CO_2 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.

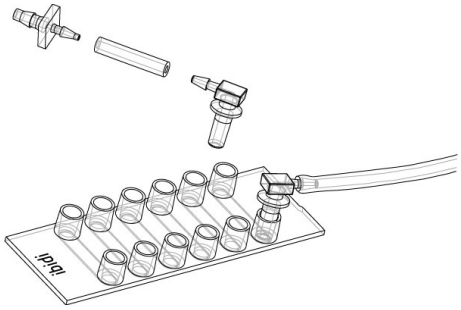
Exchanging Medium

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.

Shear Stress in µ–Slide VI 0.5 Glass Bottom

The shear stress (τ) in µ–Slide VI 0.5 Glass Bottom can be calculated by inserting the flowrate (Φ) and the dynamical viscosity (η) in the following formula:

$$\tau = \eta \cdot 104.7 \cdot \Phi$$

$$Shearstress \quad \tau \left[\frac{dyn}{cm^2}\right]$$
$$Dynamicalviscosity \quad \eta \left[\frac{dyn \cdot s}{cm^2}\right]$$
$$Flowrate \quad \Phi \left[\frac{ml}{min}\right]$$

Please insert the values in the given unit definitions. For simplicity the calculations include conversions of units (not shown).

Solvents for Fixation and Staining

Cells can be observed live or fixed directly in the µ–Slide preferably on an inverted microscope. The slide material is compatible to acids, alkalis, PFA, and silicone oil. Alcohols may be used for short term incubation (e.g. cell fixation). Acetone is not compatible. Further specifications can be found at www.ibidi.com.

For optimal results in fluorescence microscopy and storage of stained probes ibidi provides a mounting medium (50001) optimized for µ–Dishes and µ–Slides.

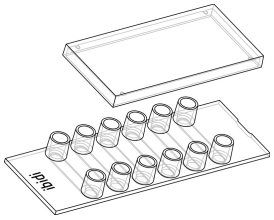
Immersion Oil

When using the µ–Slide VI 0.5 Glass Bottom with oil immersion objectives, there is no known incompatibility with any immersion oil on the market. All types of immersion oils can be used.

Ordering Information

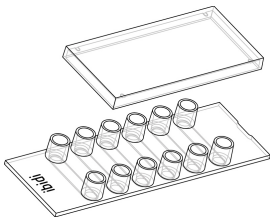
The µ–Slide VI family is available in different surfaces and bottom characteristics. See table below for choosing your µ–Slide VI.

µ–Slide VI 0.4



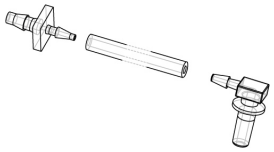
Cat. No.	Description
80606	**µ–Slide VI 0.4 ibiTreat**: #1.5 polymer coverslip, tissue culture treated, sterilized
81602	**µ–Slide VI 0.4 Collagen IV**: #1.5 polymer coverslip, sterilized
81604	**µ–Slide VI 0.4 Poly-L-Lysine**: #1.5 polymer coverslip, sterilized
81601	**µ–Slide VI 0.4 Uncoated**: #1.5 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

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.