



The ibidi product family comprises a variety of different shapes of μ-Slides, μ-Dishes and plates which all have 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 18 well flat is a convenient multi-well plate for quick and easy tests to probe experimental parameters like antibody dilution, seeding density or most effective drug concentrations. Unlike in 96 well plates, the whole area of the well can be observed in phase-contrast microscopy mode since there is no disturbing refraction of the liquid surface meniscus.

Material

The μ-Slides consist of a plastic with highest optical quality. The material exhibits extremely low birefringence and autofluorescence, both similar to that of glass. It is not possible to detach the bottom from the slide. The μ-Slides are not autoclavable since they are temperature stable up to 60°C/140°F only. Please note that gas exchange between the channel and incubator's atmosphere occurs partially through the plastic bottom which should not be covered. Thus, it is recommended to place the μ-Slide on an ibidi μ-Slide rack which can be purchased from your local distributor.

μ-Slide surfaces

Depending on your cells and special application you will need μ-Slides with different surfaces. If you do not need 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 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 cultivation of most cell lines it is indispensable to treat the uncoated μ-Slide with biopolymers which mediate cell adhesion and growth.

Coating your μ-Slide 18 well flat

The uncoated μ-Slide must be coated to promote cell adhesion. If you like to establish a certain coating for your demands we recommend to test your coating procedure on uncoated and ibiTreat μ-Slides, since we have observed that some biomolecules adhere differently to hydrophobic or hydrophilic plastic surfaces.

- Prepare your coating solution according to the manufacturer's specifications or reference.

¹Collagen IV, BD Cat.-Nr. 35 6233, Fibronectin, BD Cat.-Nr. 354008, Poly-L-Lysin, Sigma Cat.-Nr. P4832, Poly-D-Lysin, BD Cat.-Nr. 354210

- Apply 30 μl per well and leave at room temperature for at least 30 minutes.
- Cover with supplied lid.
- Aspirate the solution and wash with ultra-pure water. Let dry at room temperature.

Seeding cells

- Trypsinize and count cells as usual. Dilute the cell suspension to the desired concentration. Depending on your cell type, application of a $2-4 \times 10^5$ cells/ml suspension should result in a confluent cell-lawn after cells have spread.
- Pipet exactly 30 μl cell suspension into each μ-Slide well.
- Cover the slide with the supplied lid. Incubate at 37°C and 5% CO₂ as usual.

If you want to incubate your cells for longer than a couple of hours we recommend to aspirate and refill cell medium every day.

Tip:

If the wells are properly filled with 30 μl, the liquid surface is planar and in good alignment with the μ-Slides surface. This is how you will be able to observe the whole well area with unimpaired phase contrast.

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. You can use any fixative of your choice. The μ-Slide material is compatible

Instructions

μ-Slide 18 well flat

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, only the immersion oils specified in the table may be used. The use of different oil can lead to damages of the objective.

company	product	ordering number
Cargille	type DF, Formula Code: 1261	(Cargille) 16242
Zeiss	518 F	(Zeiss) 444960
Olympus	50CC	(Olympus) 35506
Nikon	50 CCM DF	(Nikon) MXA 20351
Leica	immersion oil, low fluorescence	(Leica) 11513859

μ-Slide 18 well flat family

The μ-Slide 18 well flat family is available with different surfaces. See table below for choosing your μ-Slide 18 well flat.

Ordering number	Treatment or Coating	characteristics
81826	ibiTreat, tissue culture treated, sterile	hydrophilic, tissue culture treated
81822	Collagen IV, sterile	protein coating
81823	Fibronectin, sterile*	protein coating
81824	Poly-L-Lysine, sterile	biopolymer coating
81825	Poly-D-Lysine, sterile*	biopolymer coating
81821	uncoated, sterile	hydrophobic
81831	PEN-membrane, 1 μm, sterile**	for Laser Microdissection

* available on request only

** The PEN foil does not fit to standard cover slip thickness.

Selected cell tests on different surfaces

Many eukaryotic and bacterial cells have been tested by ibidi on the different surfaces of the μ-Slides. A variety of other cell lines like COS, CHO, HepG3, and NIH 3T3 were successfully grown by our customers.

	ibiTreat	Collagen IV	Fibronectin	Poly-L-Lysin	Poly-D-Lysin	uncoated
HUVEC	excellent	good	excellent	no cell growth	not done	no cell growth
Rat1	excellent	excellent	excellent	excellent	excellent	poor
HT1080	excellent	excellent	excellent	excellent	not done	poor
HeLa	excellent	excellent	excellent	excellent	not done	poor
Neuro2A	excellent	excellent	excellent	excellent	excellent	poor
PC12	good	excellent	excellent	excellent	excellent	no cell growth
<i>Dictyostelium discoideum</i>	not done	excellent	not done	not done	not done	excellent
<i>Escherichia coli</i>	excellent	not done	not done	excellent	not done	excellent

HUVEC = Human Umbilical Vein Endothelial Cells

Rat1 = Rat Fibroblast

HT1080 = Human Fibrosarcoma

HeLa = Human Cervix Adenocarcinoma

Neuro2A = Mouse Neuroblastoma

PC12 = Rat Pheochromocytom

Dictyostelium discoideum = strain wild type AX-2

Escherichia coli = strain MDG131

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Further technical specifications can be found at www.ibidi.com. For questions and suggestions please contact us by mail info@ibidi.de or by telephone +49 (0)89/520 4617 0. All products are developed and produced in Germany. ©ibidi GmbH, Am Klopferspitz 19, 82152 Martinsried, Germany.