

The ibidi product family is comprised of a variety of μ-Slides, μ-Dishes, and μ-Plates 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-Plate 24 Well Black ID 14 mm allows you to perform high resolution microscopy in a standard multi-well format. For less well-to-well crosstalk in fluorescence microscopy this imaging plate is made out of a black polymer material.

Material

ibidi μ-Slides, μ-Dishes, and μ-Plates are made of a polymer 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 intended for one-time use and are not autoclavable, since they are only temperature-stable up to 80°C/175°F. Please note that gas exchange between the medium and the 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.

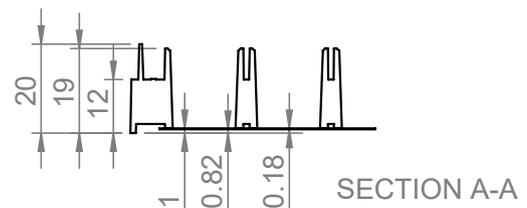
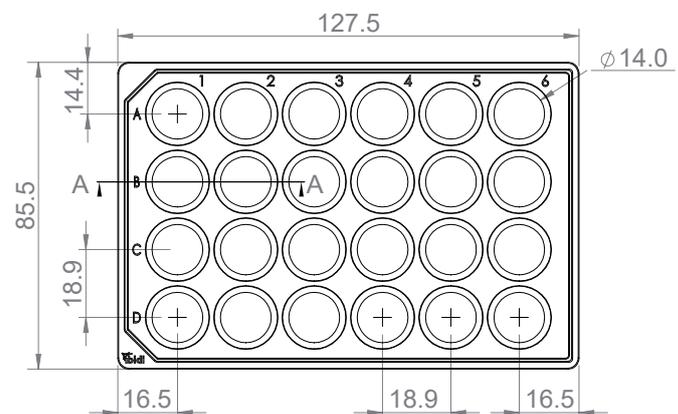
Shipping and Storage

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

Geometry

The μ-Plate 24 Well Black ID 14 mm provides standard geometry and numbering (A-D, 1-6).



The μ-Plate 24 Well Black ID 14 mm meets all important values of the ANSI/SLAS (SBS) Standards (1-2004, 2-2004, 3-2004 and 4-2004).

Dimensions of the μ-Plate in mm

Length	127.5	± 0.2
Width	85.5	± 0.2
Height with lid	22.4	± 0.4
Height without lid	20.0	± 0.4
Well to well distance	18.9	± 0.1
Focal offset	1.0	± 0.1
Well clearance	0.82	± 0.1

Single Well Parameters	
Single well diameter	14.0 ± 0.1 mm
Single well depth	19.0 ± 0.2 mm
Volume	1 ml
Growth area	1.54 cm ²
Coating area using 1 ml	4.4 cm ²

Bottom	
Inner well flatness	± 10 μm
Whole plate flatness	± 25 μm
Bottom	ibidi Polymer Coverslip

Surface

The μ-Plate 24 Well Black ID 14 mm is available with ibi-Treat and uncoated surface. The ibi-Treat surface is a physical treatment and optimized for adhesion of most cell types. Many cell lines as well as primary cells were tested.

A specific coating of the μ-Plate can be done yourself following the procedure in the section Coating Your μ-Plate.

Coating Your μ-Plate

The hydrophobic, uncoated version of the μ-Plate must be coated to promote cell adhesion. If you like to establish a certain coating for your demands, we recommend testing your coating procedure on Uncoated and ibi-Treat surface of the μ-Plate, 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.
- Apply 1 ml in each well. The coating area using 1 ml is 4.4 cm².
- Follow your coating protocol.

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

Seeding Cells

- Trypsinize and count cells as usual. Dilute the cell suspension to the desired concentration. Depending on your cell type, application of a 2.0-5.5 × 10⁴ cells/ml suspension should result in a confluent layer within 2-3 days.

- Apply 1 ml cell suspension into each single well. Avoid shaking, as this will result in inhomogeneous distribution of the cells.
- Cover the μ-Plate with the supplied lid. Incubate at 37°C and 5% CO₂ as usual.

Undemanding cells can be left in their seeding medium for several days and grow to confluence there. However, best results might be achieved when the medium is changed every 2-3 days. Carefully aspirate the old medium and replace it by 1 ml fresh medium.

Tip:

You can stack the μ-Plates to save space in your incubator. This will not affect cell growth. We recommend making batches with not more than 6 plates, due to stability reasons.

Chemical Compatibility

The following table provides some basic information on the chemical and solvent compatibility of the μ-Plate 24 Well Black ID 14 mm. 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.

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 mounting media (50001 and 50011) optimized for μ-Dishes, μ-Slides, and μ-Plates.

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
Cargille	Type A	16482	100592	01/2017
Cargille	Type HF	16245	92192	01/2017
Carl Roth	Immersion oil	X899.1	414220338	01/2017
Leica	Immersion Liquid	11513859	n.a.	03/2011
Nikon	Immersion Oil F2 30cc	MXA22192	n.a.	01/2020
Nikon	Silicone Immersion Oil 30cc	MXA22179	20191101	01/2020
Olympus	Silicone Immersion Oil	SIL300CS-30CC	N4190800	01/2017
Zeiss	Immersionol 518 F	444960	160706	01/2017
Zeiss	Immersionol W 2010	444969	101122	04/2012

Ordering Information

The ibidi μ-Plates are available in the following product versions.

μ-Plate 24 Well Black



Cat. No.	Description
82426	μ-Plate 24 Well Black ID 14 mm ibiTreat: #1.5 polymer coverslip, tissue culture treated, sterilized
82421	μ-Plate 24 Well Black ID 14 mm Uncoated: #1.5 polymer coverslip, hydrophobic, sterilized

μ-Plate 96 Well Black



Cat. No.	Description
89626	μ-Plate 96 Well Black ibiTreat: #1.5 polymer coverslip, tissue culture treated, sterilized
89621	μ-Plate 96 Well Black Uncoated: #1.5 polymer coverslip, hydrophobic, sterilized

For research use only!

Further information can be found at ibidi.com. For questions and suggestions please contact us by e-mail info@ibidi.de or by telephone +49 (0)89/520 4617 0.

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