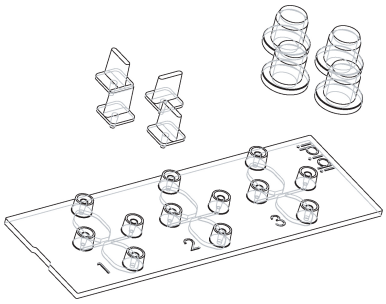


The ibidi product family comprises a variety of different shapes of µ–Slides and µ–Dishes which all have been designed for high–end microscopic analysis of fixed or living cells. The high optical quality of the material is similar to that of glass, so you can perform all kinds of fluorescence experiments with uncompromised resolution and choice of wavelength.

The µ–Slide Chemotaxis is a tool for observing chemotactical responses of adherent migrating cells over extended periods of time. The linear concentration profile which is required for chemotactical movement is generated by diffusion and stable for at least 48 hours. Three chambers on one slide allow parallel chemotaxis experiments. Please read our Application Note 14 "Chemotaxis assay using µ–Slide Chemotaxis" for detailed information about µ–Slide Chemotaxis.

Material

ibidi µ–Slides and µ–Dishes 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 upper part. The µ–Slides and µ–Dishes are not autoclavable since they are temperature stable up to 80°C/175°F only. 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

Geometry

Geometry µ–Slide Chemotaxis	
Chambers on slide	3
Volume per chamber	80 µl
Observation area	2 × 1 mm^2
Total height with plugs	12 mm
Volume chemoattractant	18 µl
Bottom matches coverslip	No. 1.5

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–Slide Chemotaxis, Collagen IV. Only high quality substrates are used [1]. Due to the precoated ECM cells attach faster which is advantageous for this assay.

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 Chemotaxis

The uncoated µ–Slide (80301) must be coated to promote cell adhesion. Follow §4 Coating in Application Note 14 "Chemotaxis assay using µ–Slide Chemotaxis".

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

Seeding cells

Detailed information on correct slide handling is provided in Application Note 14 "Chemotaxis assay using µ–Slide Chemotaxis". Please also visit www.ibidi.com for a movie on slide handling.
Here are the short steps for cell seeding and conducting chemotaxis experiments:

- Trypsinize and count cells as usual. Dilute the cell suspension to the desired concentration of approx. 3 x 10^6 cells/ml.
- Close both reservoirs by plugs.
- Apply 6 µl cell suspension onto one filling port of the µ–Slide. Then aspirate 6 µl of air from the opposite filling port. The cell suspension will be flushed inside filling the entire channel homogeneously. Cover all filling ports with cultivation caps.
- Incubate in a moist chamber until cells have attached or reached optimal confluence.

[1] Collagen IV, BD Cat.-Nr. 35 6233

Important!

The day before seeding place the cells, 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.

Further information is provided in Application Note 14 "Chemotaxis assay using µ–Slide Chemotaxis".

Chemotaxis experiment

- Fill the entire chamber with medium (without chemoattractant) using 80 µl per chamber.
- Fill 18 µl chemoattractant solution into one chamber.
- Close all filling ports with plugs.
- Conduct video microscopy.
- Track cells and analyze migration. Please visit www.ibidi.com for a software tool analyzing migrational data.

Cell seeding and conducting a chemotaxis experiment is described in detail in Application Note 14. Please also see www.ibidi.com for a movie on slide handling.

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.

Troubleshooting

Tips and tricks on handling and further troubleshooting is provided in Application Note 14 "Chemotaxis assay using µ–Slide Chemotaxis".

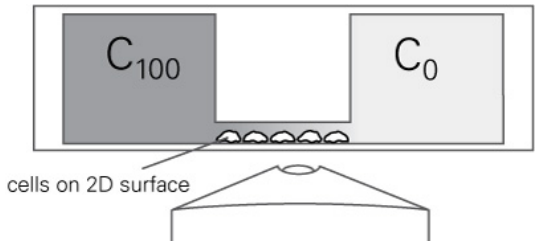
Immersion oil

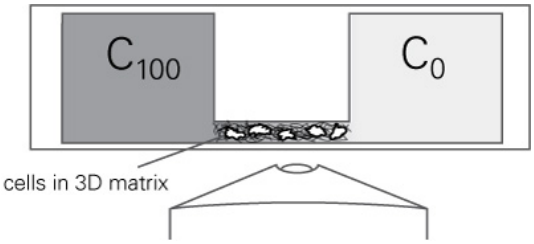
When using oil immersion objectives, only the immersion oils specified in the table may be used. The use of different oil can lead to damages of the plastic material and the objective.

Company	Product	Ordering number
Cargille	type DF, Formula Code: 1261	(Cargille) 16242
Zeiss	518 F	(Zeiss) 444960
Olympus	50CC	(Olympus) 35506
Leica	immersion oil, low fluorescence	(Leica) 11513859
ibidi	immersion oil	(ibidi) 50101

µ-Slide Chemotaxis selection guide

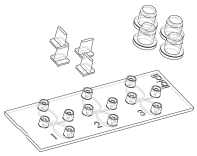
µ–Slide Chemotaxis	µ–Slide Chemotaxis 3D
Migration of adherent cells on a flat surface.	Migration of non–adherent cells in 3D gel matrix.
For slow migrating, adherent cells, e.g. endothelial cells, cancer cells or fibroblasts.	For fast or slow migrating cells embedded in a 3D gel matrix e.g. neutrophils, lymphocytes and dendritic cells. A gel matrix is not part of the product.
Gradient is long term stable.	Gradient is long term stable.





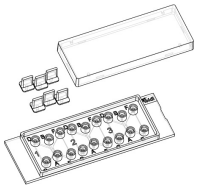
µ–Slide Chemotaxis family

µ–Slide Chemotaxis



Ordering number	Treatment or Coating	characteristics
80306	ibiTreat, tissue culture treated, sterile	hydrophilic, tissue culture treated
80302	Collagen IV, sterile	protein coating
80301	uncoated, sterile	hydrophobic

µ–Slide Chemotaxis 3D



Ordering number	Treatment or Coating	characteristics
80326	ibiTreat, tissue culture treated, sterile	hydrophilic, tissue culture treated
80322	Collagen IV, sterile*	protein coating
80321	uncoated, sterile	hydrophobic

* Surface coating of observation area. Does not contain a gel matrix.

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.
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