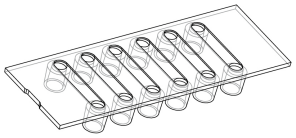


The sticky–Slide family allows you to perform cell culture experiments with custom–specific bottom materials like plastic sheets, glass coverslips, etc. The self adhesive (”sticky”) underside of the bottomless blank slide is easily adapted to your specific bottom substrate.

The convenient six channel format is ideal for static cell cultivation and the application of standard immunofluorescence protocols for e.g. treatment, staining, and microscopy of living or fixed cells. The sticky–Slide VI 0.4 can also be connected to a pump and enables you to observe cells under flow conditions.

Material

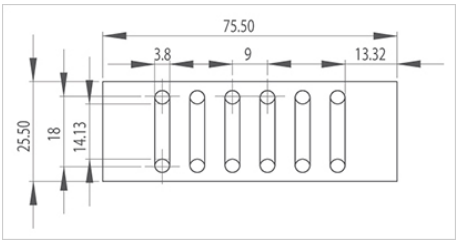
The slide material of sticky–Slides is identical to µ–Slides. All sticky–Slides are delivered sterilized and single packed. Please keep in mind that sterility is lost when non–sterile substrates are used. The sticky-Slides are not autoclavable since they are temperature stable up to 60°C/140°F only.
The sticky bottom itself is a 130 µm biocompatible double–faced adhesive tape. The tape is covered by a protection film which has to be removed before usage.

Geometry

All technical details beside bottom material is identical to µ–Slide VI 0.4. The Slides provide standard slide format according to ISO 8037/1.

Please keep in mind that the channel height is formed by the channel height itself (400 µm) plus the thickness of the adhesive tape (depending on contact pressure, max. 130 µm).

Geometry of the sticky–Slide VI 0.4	
Number of channels	6
Volume of each channel	30 + 10 µl
Height of channels	400 + 130 µm
Length of channels	17 mm
Width of channels	3.8 mm
Growth area per channel	0.6 cm^2
Volume per reservoir	60 µl
Bottom	none



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	
sticky-Slides	36 months

Handling and Assembling

Assemble the sticky–Slides with a convenient bottom material, matching your experimental needs.

- Prepare your sample and/or bottom material.
- Remove the protection film of the sticky–Slides.
- Mount bottom and sticky–Slide. Press firmly until the bottom is completely sealed. Make sure there is no air left between sticky–Slide and the bottom material by applying precise pressure with fingers. To confirm strong adhesion, invert the sticky–Slide and check for air gaps. If air gaps are found, press them out of the adhesive interface.

- For best results, use our Clamp for sticky–Slides (ibidi, 80040) after assembly.
- Incubate the assembled sticky–Slide at 37°C for 8 hours in a dry or humid incubator.
- Conduct your experiment.

Optional: Sample Insertion into Channels

For channel structures, samples can be inserted before assembling sticky–Slide and bottom material. In case a sample must not dry, rinse the sample with protein-free buffer solution to ensure a maximum of adhesion. Place the sample into the channel and mount the bottom material. Keep in mind that wet samples, especially in culture medium with high protein concentration might interfere with proper sticky–Slide performance. Start with the experiment immediately after assembly.

Surface Compatibility

sticky–Slides are compatible with flat, clean, dust–free, fat–free surfaces like glass coverslips, plastic, metal, or electrode structures. Best results are achieved with completely dry surfaces. Dusty or fatty surfaces like wax foils, lipids or similar surfaces are not compatible. Please test your specific surface in your lab with a free sample from www.ibidi.com.

Seeding Cells

- Trypsinize and count cells as usual. Dilute the cell suspension to the desired concentration. We recommend a cell concentration of 0.25 – 2.2 x 10^6 cells/ml.
- Apply the volume directly into the channel. Depending on the cell concentration and the application, optical confluency is reached after some hours up to some days.
- Cover reservoirs with the supplied lid. Incubate at 37°C and 5 % CO_2 as usual.
- After cell attachment fill each reservoir with 60 µl medium.
- The Slide is now ready for applying flow conditions on the adherent cells. Don't trap air bubbles when plugging in the connecting tubes.

Depending on the cells we recommend exchanging the medium every day in static culture: Aspirate both reservoirs (not the channel). Flush fresh medium inside the channel by filling one reservoir with 120 µl medium and removing the content of the reservoir from the other side, ensuring the channel is never dry. Leave both reservoirs filled with ca. 60 µl each.

Tip:

The day before seeding the cells we recommend placing the cell medium, the µ–Slide, and possible tubing for perfusion into the incubator for equilibration. This will prevent the liquid inside the channel from emerging air bubbles over the incubation time.
Quick dispensing of cell suspension helps to avoid trapped air bubbles and leads to maximal homogeneity of cell distribution.

Disassembly of sticky–Slides

sticky–Slides can be removed from the substrate by dissolving the sticky bottom with acetone. Once the sticky bottom is removed sticky–Slides cannot be reused. Dip the assembled sticky–Slide into acetone over night in an appropriate glass container (e.g. a beaker). Please keep in mind that acetone might be harmful to your used substrate.

Solvents for Fixation, Staining and Other Purposes

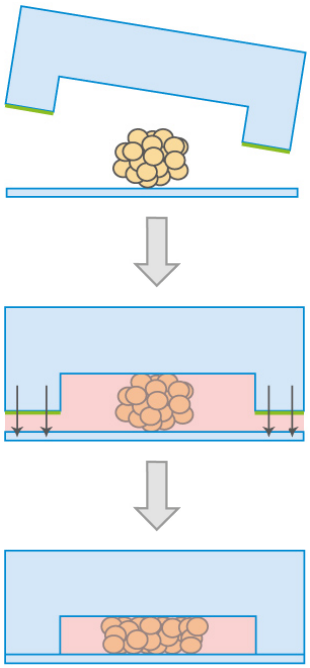
The material is compatible to most fixatives, like acidic acid, alcohols, aldehydes and PFA. Please keep in mind that these substances may be harmful to the mounted bottom material. Acetone is not compatible. For a full list of compatible solvents and more information on chemical compatibility, please visit the FAQ section on 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

The compatibility with immersion oil depends on the used substrate.

Applications

sticky–Slides I Luer and sticky–Slide VI 0.4 are designed for perfusion applications and applying defined shear stress and shear rates on cells inside the channel. The female Luer adapters allow easy connections to tubing and pump systems.



Application of a sample squeezed into a channel.

Shear Stress in sticky–Slides

For perfusion experiments the shear stress is different from normal non-sticky channel µ–Slides. The sticky tape increases the channel height which leads to significantly different shear stress values. The shear stress (τ) with sticky–Slides and a flat and rigid bottom material can be calculated by inserting the flowrate (Φ) and the dynamical viscosity (η) in the following formulas:

sticky–Slide I 0.1 Luer:	$\tau = \eta \cdot 906.0 \cdot \Phi$
sticky–Slide I 0.2 Luer:	$\tau = \eta \cdot 330.4 \cdot \Phi$
sticky–Slide I 0.4 Luer:	$\tau = \eta \cdot 104.7 \cdot \Phi$
sticky–Slide I 0.6 Luer:	$\tau = \eta \cdot 51.6 \cdot \Phi$
sticky–Slide I 0.8 Luer:	$\tau = \eta \cdot 31.0 \cdot \Phi$
sticky–Slide VI 0.4:	$\tau = \eta \cdot 97.1 \cdot \Phi$

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

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

Ordering Information

The sticky–Slide technology is available with different slide formats. Please see the table below for choosing your sticky–Slide.

sticky–Slides

Cat. No.	Description
80828	**sticky–Slide 8 Well**: sterilized
80608	**sticky–Slide VI 0.4**: sterilized
80328	**sticky–Slide Chemotaxis**: sterilized
81128	**sticky–Slide I 0.1 Luer**: sterilized
80168	**sticky–Slide I 0.2 Luer**: sterilized
80178	**sticky–Slide I 0.4 Luer**: sterilized
80188	**sticky–Slide I 0.6 Luer**: sterilized
80198	**sticky–Slide I 0.8 Luer**: sterilized
10812	**Coverslips for sticky–Slides**: #1.5H (170 µm ±5 µm) D 263 M, Schott glass, 25 mm × 75 mm, unsterile
10813	**Coverslips for sticky–Slides Uncoated**: #1.5 polymer coverslip, 25 mm × 75 mm, unsterile
10814	**Coverslips for sticky–Slides ibiTreat**: #1.5 polymer coverslip, tissue culture treated 25 mm × 75 mm, unsterile

Clamp for sticky–Slides

Cat. No.	Description
80040	**Clamp for sticky-Slides**
80041	**Adapter for sticky–Slide 8 Well**
80042	**Adapter for sticky–Slide I Luer**
80043	**Adapter for sticky–Slide VI 0.4**
80044	**Adapter for sticky–Slide Chemotaxis**

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.