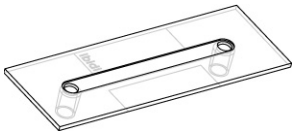


The sticky–Slide family allows you to perform cell culture experiments with custom–specific bottom materials like plastic sheets, glass slides, spotted coverslips, printed circuit boards, etc. The self adhesive ("sticky") underside of the bottomless blank slide is easily adapted to your specific substrate by pressing on by hand.

The sticky–Slide I Luer is designed for perfusion applications and applying defined shear stress and shear rates on cells inside the channel.

Material

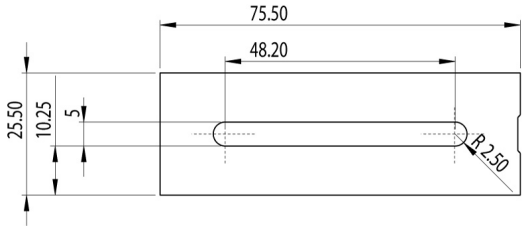
The slide material of sticky–Slides is identical to common µ–Slides (uncoated). The Slides are not autoclavable since they are temperature stable up to 60°C/140°F only. All sticky–Slides are delivered sterile and single packed. Please keep in mind that sterility is lost when non–sterile substrates are used.
The sticky bottom itself is a 50 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 are identical to µ–Slide I Luer. 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 (100 µm...800 µm) plus the thickness of the adhesive tape (depending on contact pressure, ca. 50 µm.

Geometry of the sticky–Slide I Luer		
General		
Growth area		2.5 cm^2
Recommended volume per reservoir		60 µl
Bottom		none
Specific		
Product name	Channel height	Channel volume
sticky–Slide I $^{0.1}$ Luer	100 + 50 µm	25 + 12.5 µl
sticky–Slide I $^{0.2}$ Luer	200 + 50 µm	50 + 12.5 µl
sticky–Slide I $^{0.4}$ Luer	400 + 50 µm	100 + 12.5 µl
sticky–Slide I $^{0.6}$ Luer	600 + 50 µm	150 + 12.5 µl
sticky–Slide I $^{0.8}$ Luer	800 + 50 µm	200 + 12.5 µl



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.

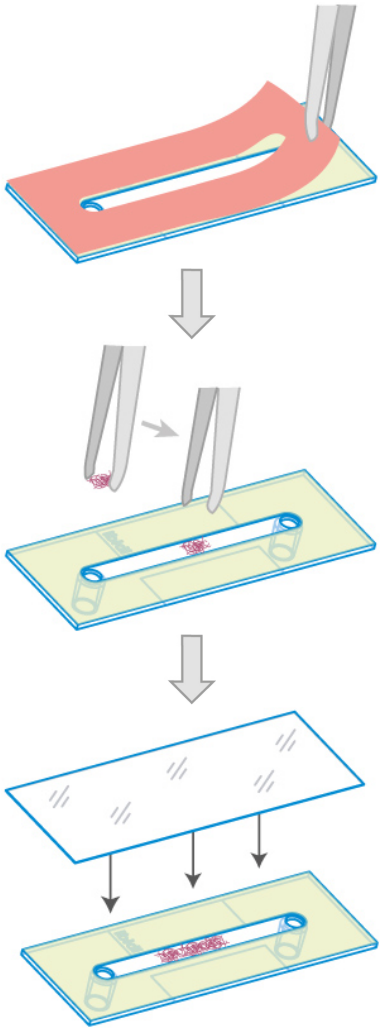
Conditions	
Shipping conditions	Ambient
Storage conditions	RT (15-25°C)

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

Handling and Assembling

Assemble the sticky–Slides with a convenient bottom material, matching your experimental needs. Use our Clamp for sticky-Slides for a comfortable assembling (ibidi, 80040).

- Prepare your sample and/or bottom material.
- Remove the protection film by using sterile tweezers.
- Optionally for channel sticky–Slides, place your sample into the channel.
- Mount bottom and sticky–Slide with some pressure. Press well until the bottom is sealed. For best results use our Clamp for sticky–Slides (ibidi, 80040).
- Incubate at 20-40°C for best results.
- Conduct your experiment.



The adhesive strength strongly depends on temperature and time. Best results are achieved by storing the assembled Slides over night at 20-40°C. Anyhow, sticky–Slides are not leaky immediately after assembling.

sticky–Slides can be removed from the substrate by dipping them 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. Once removed sticky–Slides cannot be reused.

Surface Compatibility

sticky–Slides are compatible with all flat, clean, dust–free, fat–free surfaces like glass, plastic, metal, silicium or electrode structures. sticky–Slides can be assembled with wet surfaces (protein–free, aqueous solutions like water or PBS buffer). Dusty or fatty surfaces like wax foils or similar surfaces are not compatible. Please test your specific surface in your lab with free samples from www.ibidi.com.

Best results are achieved when flexible substrates like plastic sheets or coverslips are used. Rigid glass slides or metal surfaces are also possible to use but need more pressure to seal.

Seeding Cells

Important!

The sticky–Slide I $^{0.1}$ Luer and sticky–Slide I $^{0.2}$ Luer are not recommended for use in static cell culture!

- Prepare your cell suspension. Dilute the cell suspension to the desired concentration. The cell density after seeding strongly depends on the channel's height. Please use the following recommended cell concentrations:

Product name	Volume	Cell concentration
sticky–Slide I $^{0.1}$ Luer	37.5 µl	0.80 – 6.5 ×10^6 c/ml
sticky–Slide I $^{0.2}$ Luer	62.5 µl	0.50 – 4.0 ×10^6 c/ml
sticky–Slide I $^{0.4}$ Luer	112.5 µl	0.25 – 2.2 ×10^6 c/ml
sticky–Slide I $^{0.6}$ Luer	162.5 µl	0.20 – 1.5 ×10^6 c/ml
sticky–Slide I $^{0.8}$ Luer	212.5 µl	0.15 – 1.2 ×10^6 c/ml

- Add the respective volume of cell suspension 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 caps. Incubate at 37°C and 5 % CO_2.
- 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.

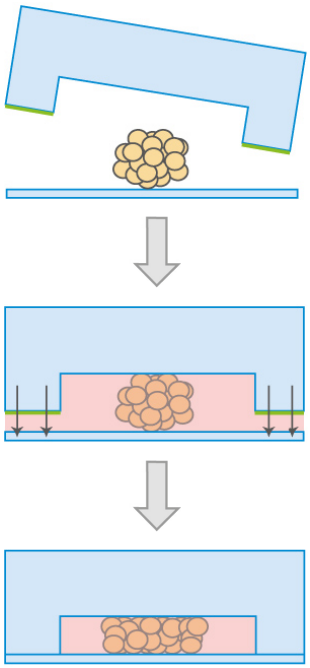
Depending on the cells we recommend exchanging the medium every day in static culture: Aspirate both reservoirs (not the channel). Flush fresh medium inside the channel by filling one reservoir with 120 µl medium and removing the content of the reservoir from the other well, ensuring the channel is never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

Tip:

The day before seeding the cells we recommend placing the cell medium, the µ–Slide, and the tubing 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.

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. Several other cell culture applications are possible, e.g. insertion of tissue samples or spheroids into channel slides. The sticky–Slides I Luer are available in five versions which only differ in their channels' heights and channel volumes.



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 by 130 µm 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).

Solvents for Fixation, Staining and Other Purposes

The sticky bottom material and the slide material are compatible to Methanol, acids, alkalis, PFA, DMSO, and silicone oil. Please keep in mind that these substances may be harmful to the used substrate. Acetone is not compatible with the sticky material so it can be used to detach slide and substrate after use.

Immersion Oil

Immersion oil compatibility depends on the used substrate.

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
80328	**sticky–Slide VI $^{0.4}$**: sterilized
80608	**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.