

The Product and Experiment Guide

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**Spheroids | Organoids
3D Cell Culture**

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Chemotaxis Assays

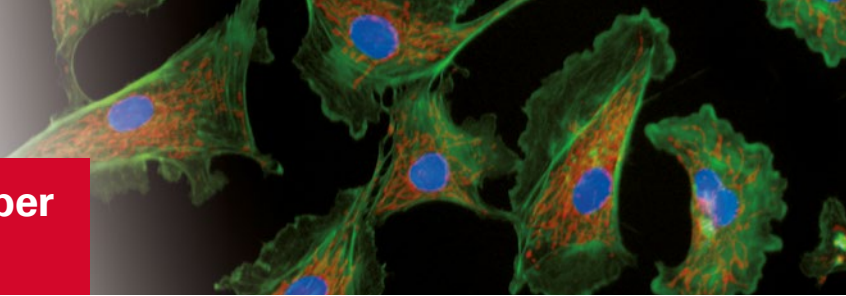
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Angiogenesis Assays

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Immunofluorescence

Find the Ideal Imaging Chamber for Your Application



Immunofluorescence



GLASS SLIDE

3 Well | 8 Well | 12 Well Chamber, removable

Removable silicone chambers on a microscope glass slide for cell culture and immunofluorescence, suitable for upright and inverted microscopy and long-term storage



GLASS COVERSIP

POLYMER COVERSIP

μ-Slide VI^{0.5} Glass Bottom | μ-Slide VI^{0.4}

Slides with 6 parallel channels providing ideal optical conditions for immunofluorescence, available with different channel heights and coatings; with an ibidi Polymer Coverslip or a glass bottom

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Migration & Wound Healing



POLYMER COVERSIP

Culture-Insert 2 Well | 3 Well | 4 Well

Silicone inserts with a defined cell-free gap for wound healing, migration, 2D invasion assays, and co-cultivation of cells; available as individual inserts in a μ-Dish or as 25 pieces in a transport dish for self-insertion



p. 12



POLYMER COVERSIP

Culture-Insert 2 Well 24

The complete solution for high throughput wound healing and migration experiments

Angiogenesis



GLASS COVERSIP

POLYMER COVERSIP

p. 14

POLYMER COVERSIP

μ-Slide 15 Well 3D | μ-Plate 96 Well 3D

A slide with ibidi Polymer Coverslip or a glass bottom for tube formation assays, 3D cell culture, and immunofluorescence; also available with 96 wells for high throughput applications

Chemotaxis



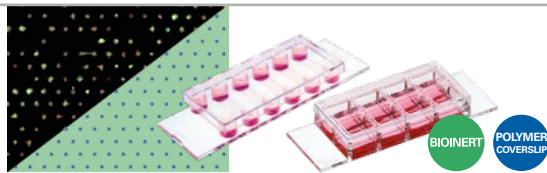
POLYMER COVERSIP

p. 13

μ-Slide Chemotaxis

A slide with a specialized geometry for chemotaxis assays with fast or slow migrating cells in 2D or 3D; stable gradients for more than 48 hours

Single-Cell Assays



BIOINERT

POLYMER COVERSIP

μ-Slides With Single-Cell μ-Pattern

One cell per spot: Ready-to-use micropatterned slides with ideal spacing for single cell assays (e.g., CAR-T cell activity assay)

“

*ibidi made it much simpler for me to prepare cells for **confocal** and **live cell microscopy**.*

*Cells that attached poorly to glass **grew better** on ibidi μ-Slides and μ-Dishes.*

*Esther G.L. Koh, PhD
National University of Singapore*

High Throughput



POLYMER COVERSIP

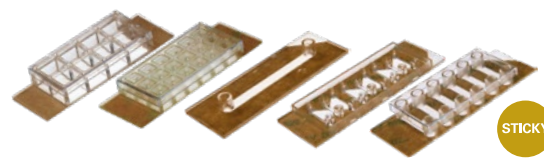
GLASS COVERSIP

POLYMER COVERSIP

μ-Plate 24 Well | 96 Well | 384 Well

Plates with a flat, clear ibidi Polymer Coverslip or a glass bottom for brilliant images in high throughput cell microscopy; plate dimensions meet ANSI/SLAS (SBS) Standards

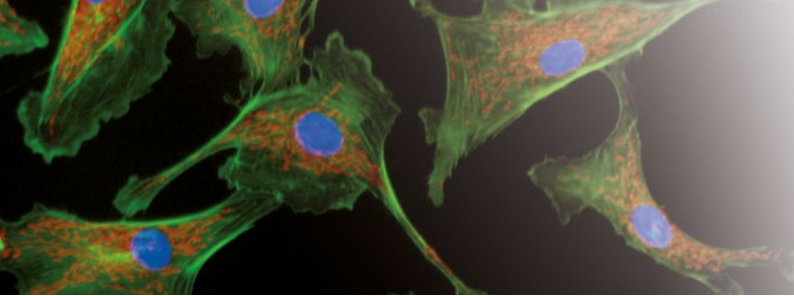
Sticky Slides



STICKY

sticky-Slide 8 Well^{high} | 18 Well | 1 Luer | Chemotaxis | VI^{0.4}

Bottomless slides with a self-adhesive underside that allow the mounting of a variety of bottom materials



μ-Slide 2 Well | 4 Well | 8 Well^{high} | 18 Well

Chambered coverslips that combine optimal conditions for cell culture, immunofluorescence, live cell imaging, and high-resolution microscopy; available with an ibidi Polymer Coverslip or a glass bottom



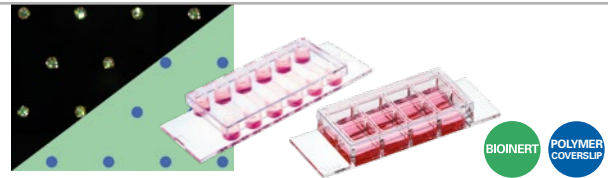
μ-Dish Family

A variety of petri dishes for cell culture and high-end microscopy; available with an ibidi Polymer Coverslip or a glass bottom; gridded dishes for cell location and counting also available



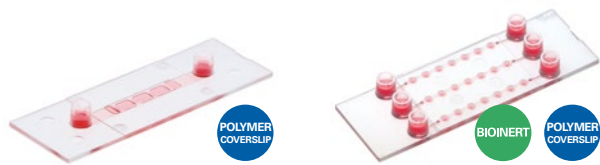
Bioinert μ-Slides and μ-Dishes

Labware with a completely non-adherent surface for culturing spheroids, organoids, and suspension cells



μ-Slides With Multi-Cell μ-Pattern

Multiple cells on one spot: Ready-to-use micropatterned slides with ideal spacing for spheroids and organoids



μ-Slide I Luer 3D

A slide with one channel and three wells for culturing cells on a 3D gel matrix under flow



μ-Slide Spheroid Perfusion

A perfusable channel slide with 3 x 7 wells for long-term spheroid cultivation



μ-Slide III^{3D} Perfusion

A flow slide for optimal nutrient supply during long-term cell or organoid culture



Collagen Type I, Rat Tail

High quality collagen for 3D gels, scaffolds, and coatings



μ-Slide I Luer

Flow channel slides with an ibidi Polymer Coverslip or a glass bottom, available with different heights and coatings



μ-Slide γ-shaped

A flow channel slide for bifurcation studies and simulation of branching blood vessels



μ-Slide VI^{0.5} Glass Bottom | μ-Slide VI^{0.4}

Slides with 6 channels for parallel flow assays and high-resolution microscopy, available with different channel heights and coatings; with an ibidi Polymer Coverslip or a glass bottom

Get inspired by successful ibidi customers: Explore **publications** on each product page.



Order your **free sample** and test the ibidi microscopy chambers with your experiments.

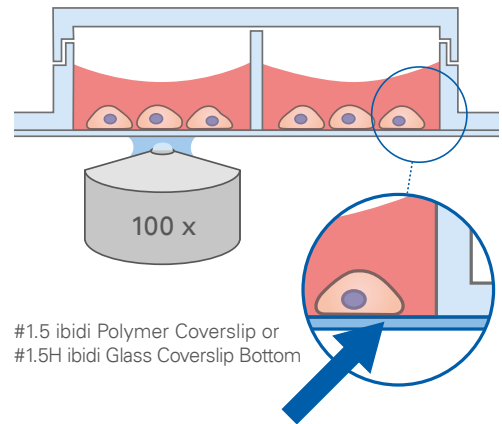


The ibidi Imaging Chambers

A Bottom and Surface Guide

The Principle of Imaging Chambers: The Coverslip Bottom

The outstanding characteristic of the ibidi μ -Slides, μ -Dishes, and μ -Plates is their thin coverslip bottom, which has excellent features for high-end microscopy applications. In comparison, the bottom of standard cell culture plastics is about 1 mm thick—which is more than 5 times the thickness of the coverslip and, therefore, not ideal for imaging.



ibidi Polymer Coverslip



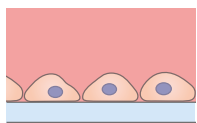
The ibidi Polymer Coverslip Bottom is suitable for various imaging techniques up to the highest resolution. With a standard #1.5 coverslip thickness of 180 μm (+10/-5 μm), it meets all optical requirements for microscopes. The ibidi Polymer Coverslip is compatible with a variety of immersion oils, which are specified at ibidi.com/oil.

ibidi Glass Coverslip



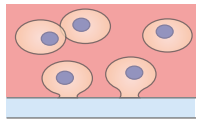
The ibidi Glass Coverslip Bottom was developed specifically for TIRF, super-resolution microscopy, and single molecule microscopy. However, it is also ideally suitable for standard imaging techniques. The D 263 M Schott borosilicate glass has a #1.5H thickness of 170 μm (+/-5 μm) and unrestricted immersion oil compatibility.

Surfaces and Coatings for the ibidi Polymer Coverslip



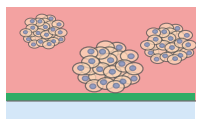
ibiTreat (Tissue Culture-Treated)

Excellent adhesion of adherent cells, hydrophilic surface with no need for any additional coating; optimal for everyday cell culture



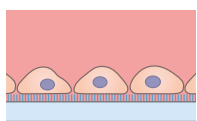
Hydrophobic, Uncoated Surface

Weak adhesion of adherent cells, suitable for the application of specific coatings



Bioinert Surface

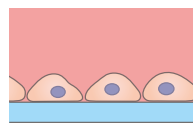
No adhesion of adherent cells or any bio-molecule, stable long-term passivation; ideal for spheroid and organoid culture



Coated Surface

Culture of adherent cells on a Collagen I, Collagen IV, or Poly-L-Lysine surface; available for selected μ -Slides

Surfaces and Coatings for the ibidi Glass Coverslip



Glass Surface

Adhesion of adherent cells (coating might be required), ideal for special microscopy applications

Download a detailed
Application Guide at:
ibidi.com/MicroscopyGuide



ibidi Reagents

Highest Quality for Live Cell Analysis

Collagen Type I, Rat Tail for 3D Cell Culture

- A non-pepsinized, native collagen solution with the highest quality grade, available with 5 or 10 mg/ml
- Provides biological extracellular matrix (ECM) structures
- For use in various cell culture applications (e.g., 3D gels, scaffolds, and coating)



ibidi Mounting Medium for Immunofluorescence

- Ready-to-use for immunofluorescence assays using widefield fluorescence and confocal microscopy
- DAPI counterstaining and mounting combined in one single step; also available without DAPI
- Compatible with all ibidi labware



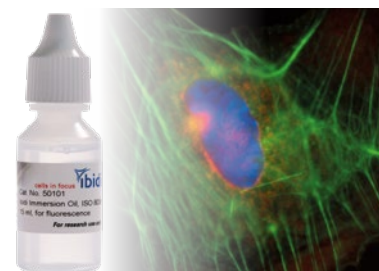
ibidi Freezing Medium Classic

- A cell freezing medium with extremely high recovery rates
- No preliminary or sequential freezing required
- Serum-free—contains bovine serum albumin



ibidi Immersion Oil for Microscopy

- For high-resolution microscopy using oil immersion objective lenses
- Lowest autofluorescence for excellent imaging quality in fluorescence microscopy
- Compatible with all ibidi products and all microscope brands



“

*The Collagen Type I, Rat Tail from ibidi is a very high-quality product. We have been using it for years, and it always provides **reliable and stable results**.*

*We have utilized the collagen for culturing **many cell lines** and **primary cells** including stem cells, tumor cells, and cartilage cells.*

Prof. Liu Chun, Sun Yan-Sen University, Guangzhou, China

Live Cell Imaging Under Physiologic Conditions

ibidi Stage Top Incubators

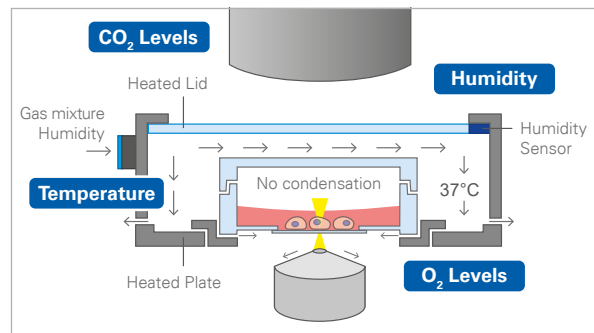
Establish *in Vivo*-Like Conditions on Every Inverted Microscope

Cells react sensitively to changes in their environment. For reproducible, biologically relevant results, it is crucial to maintain stable conditions on the microscope during live cell imaging. The ibidi Stage Top Incubators precisely control essential parameters such as temperature, humidity, and CO₂/O₂ levels.



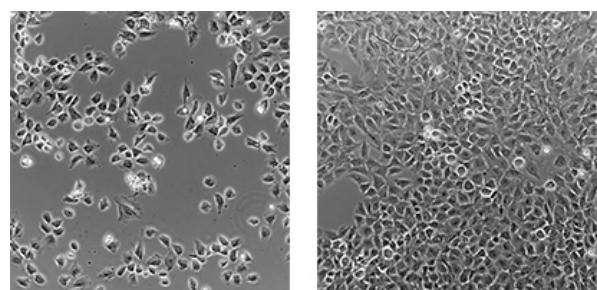
Benefits

- **Easy installation and use:**
Quick mounting on inverted microscopes
- **No evaporation during long-term assays:**
Very high humidity levels inside the incubation chamber due to active, feedback-controlled humidity regulation, preventing evaporation and condensation
- **Optimal for high-resolution microscopy:**
Maximal xyz-stability on the microscope stage; system can be extended with the ibidi Objective Heater Universal for oil immersion



Applications

- Tube formation/angiogenesis assays
- 2D and 3D chemotaxis assays
- Wound healing and migration assays
- Hypoxia / physioxia assays



The ibidi Humidity Control ensures a constant and very high relative humidity (RH) inside the incubation chamber, thereby optimizing cell growth by preventing evaporation. Left: 70% RH, right: 90% RH.



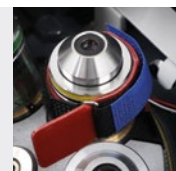
The heating stage from ibidi delivers **superior thermal stability** and enables you to work with **high humidity**.

This is **indispensable** for long-term studies and not possible with other systems.

Prof. Stefan Zahler, PhD
University of Munich, Germany

Optional: Objective Heater

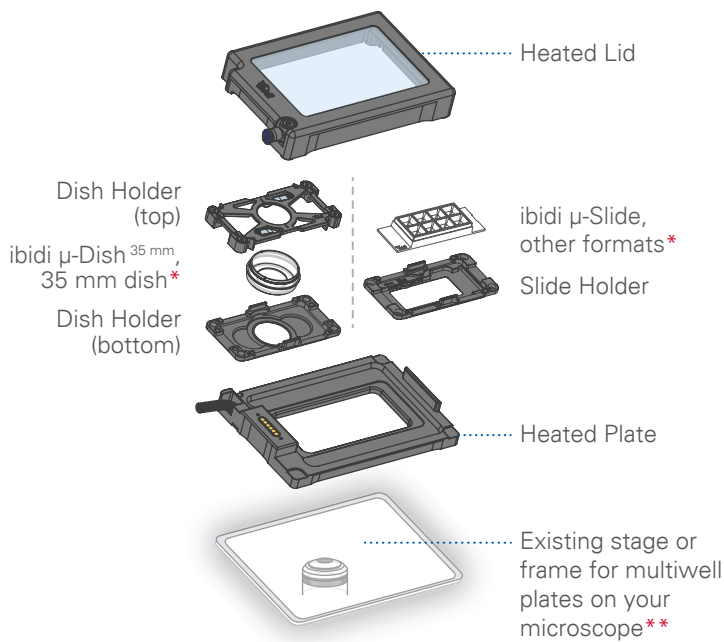
Perform long-term oil immersion or water immersion imaging without cooling of the sample.



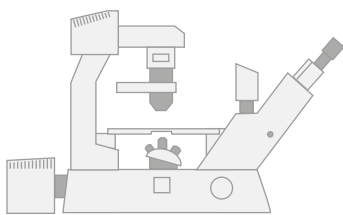
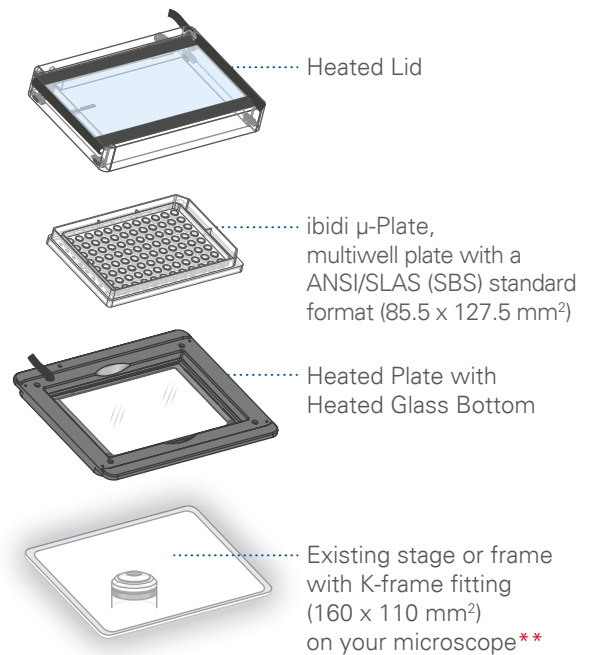
Download a detailed Application Guide at:
ibidi.com/LiveImagingGuide



ibidi Stage Top Incubator Slide/Dish – Silver Line



ibidi Stage Top Incubator Multiwell Plate – Silver Line



Your inverted microscope**

Contact ibidi for a **free demo** of the ibidi Stage Top Incubator.



* See compatibility list in the Instructions

** Your inverted microscope is not part of the ibidi Stage Top Incubator. Please contact us for information on suitable microscopes.

For standard live cell imaging applications, we also provide the ibidi Stage Top Incubator – Blue Line.



3D Cell Culture

Solutions for Spheroids, Organoids, and Single Cells

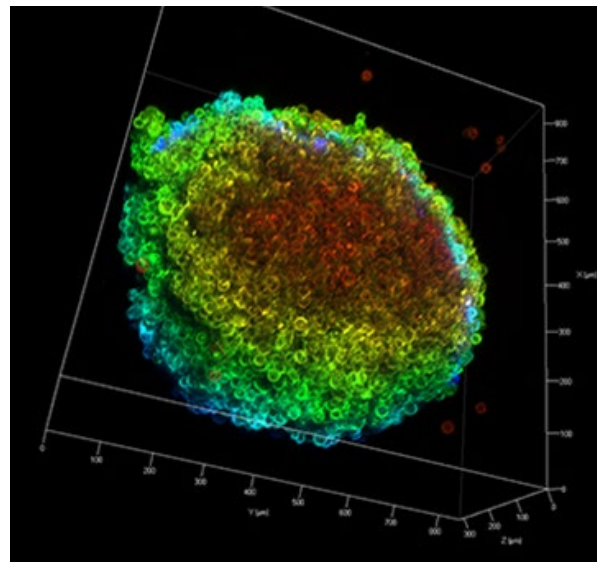
Mimic the Cellular Microenvironment and Get High-Resolution Images

The majority of cells in living tissue grow in a three-dimensional microenvironment. Therefore, in many cases, a 3D *in vitro* setup more closely resembles an *in vivo* situation than a 2D setup.

For a 3D approach, cells can be cultured in one of two ways:

- grown in suspension on a non-adhesive surface
- embedded in, or on, a 3D matrix that mimics the extracellular matrix (ECM), and allows them to grow in all three directions

Confocal laser scanning microscopy projection of an HT-1080 LifeAct spheroid. Warm colors = close to the surface, cold colors = distant from the surface.



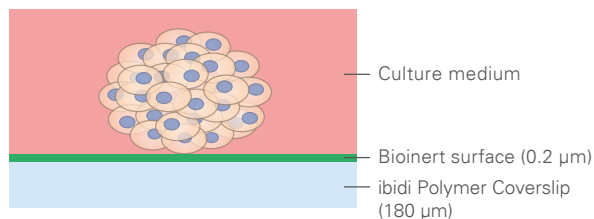
The ibidi Surfaces for 3D Cell Culture

Bioinert Surface: No Cell Adhesion



Bioinert is a completely non-adherent surface that does not allow binding of any biomolecule.

Bioinert is a thin polyol hydrogel layer covalently bound to the ibidi Polymer Coverslip. In contrast to standard ultra-low attachment (ULA) coatings, Bioinert provides a stable passivation in cell-based assays for several days or even weeks.



Bioinert μ -Slides and μ -Dishes

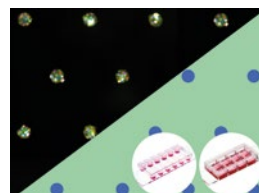
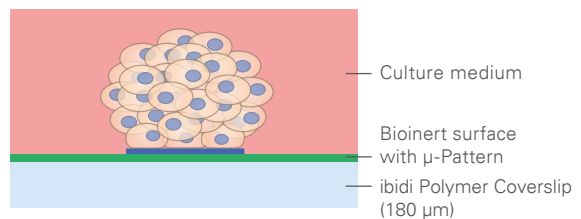
Labware with a completely non-adherent surface for culture and high-end microscopy of spheroids, organoids, and suspension cells

μ -Patterning: Defined Cell Adhesion



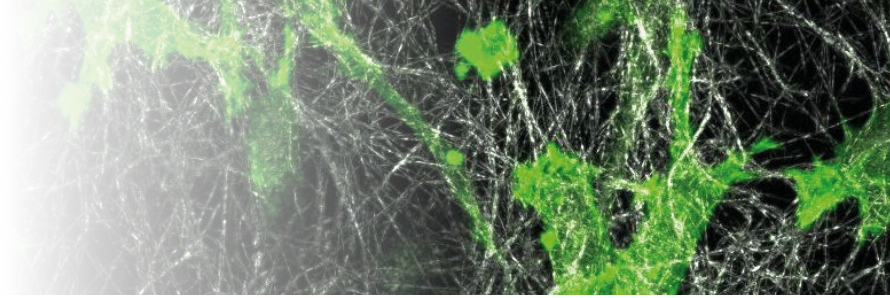
The ibidi μ -Patterning technology enables spatially defined cell adhesion for 2D and 3D applications.

Miniaturized adhesive patterns (e.g., lines, squares, or dots) are irreversibly printed on the non-adhesive Bioinert surface of the ibidi Polymer Coverslip, allowing for precisely controlled cell adhesion.



μ -Slides With Multi-Cell μ -Pattern

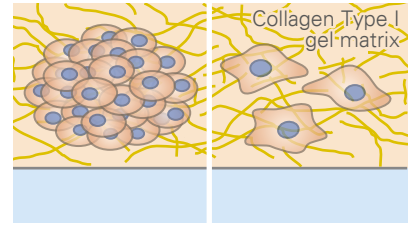
Multiple cells on one spot: Ready-to-use micropatterned slides with ideal spacing for spheroids and organoids



ibidi Collagen Type I, Rat Tail: A High-Quality 3D Matrix

Collagen I is the main component of connective tissue and is abundant in the mammalian body. It is used in 3D cell culture for simulating the extracellular matrix (ECM).

The ibidi **Collagen Type I, Rat Tail** is a non-pepsinized, native collagen for modeling ECM in gel matrices. Its fast polymerization facilitates optimal cell distribution in 3D gels.



Download a detailed Application Guide at: ibidi.com/3DGuide



Which Slide Is Recommended for My 3D Application?



μ -Slide Spheroid Perfusion

A perfusable channel slide with 3 x 7 wells for long-term spheroid cultivation



μ -Slide III 3D Perfusion

A flow slide for optimal nutrient supply during long-term cell or organoid culture



μ -Slide I Luer 3D

A slide with one channel and three wells for culturing cells on a 3D gel matrix under flow



μ -Slide 15 Well 3D | μ -Plate 96 Well 3D

A slide or plate for easy, cost-effective 3D cell culture and microscopy in, or on, a gel matrix

Surface	Bioinert	ibiTreat	ibiTreat	ibiTreat
Application				
3D cell aggregates	✓	✓ inside gel	✓ inside gel	✓ inside gel
Gel matrices for 3D	—	✓	✓	✓
Perfusion of samples	✓	✓	✓ with defined shear stress	—
Cell Type				
Spheroids / organoids	✓ free floating in well	✓ inside gel	✓ inside gel	✓ inside gel
Suspension cells	✓ free floating in well	✓ inside gel	✓ inside gel	✓ inside gel

Flow Assays

Simulate Physiologic Systems Under Various Conditions

The ibidi Pump System

Cultivating cells under flow conditions can be very important when using cells that exist in biofluidic systems, such as endothelial or epithelial cells. The ibidi Pump System simulates defined continuous and pulsatile laminar flow, and oscillatory flow to study cells in a more physiological environment.

Benefits

- **Long-term cell cultivation under flow:** Sterile and defined conditions for up to several weeks
- **Automation:** Software-based flow programming including shear stress and shear rate calculation
- **Simulation of all physiological flow patterns:** Wide shear stress range (0.1–200 dyn/cm²)
- **Compatibility:** Works with a wide range of slides (e.g., μ -Slides with Luer adapters, customized slides)
- **Flexibility:** To be used with all cell culture incubators, all inverted microscopes, and ibidi Stage Top Incubators

Download a detailed Application Guide at: ibidi.com/FlowGuide



Applications

- Long-term cell culture under flow with defined shear stress values
- Rolling and adhesion assays
- Transmigration and invasion studies
- Perfusion of cells, spheroids, and organoids in 2D and 3D for optimal nutrition



*We've been working with the **ibidi Pump System** for over 5 years now and have recommended it to numerous colleagues.*

*In fact, the **ibidi Pump System** makes the endothelial cell under flow **the default** of our lab!*

*Nynke van den Akker, PhD
Maastricht University, The Netherlands*

Selected ibidi Channel Slides for Flow Assays



μ -Slide I Luer Family

Slides with one channel for standard flow assays; available with an ibidi Polymer Coverslip or glass bottom, plus different channel heights and coatings



μ -Slide VI Family

Slides with six channels for parallel flow assays; available with an ibidi Polymer Coverslip or glass bottom, plus different channel heights and coatings



μ -Slide I Luer 3D

A slide with one channel and three wells for culturing cells on a 3D gel matrix under defined flow



μ -Slide III 3D Perfusion

A perfusable slide for optimal nutrient supply during long-term 3D culture of cells, tissue samples, organoids, spheroids, and small organisms



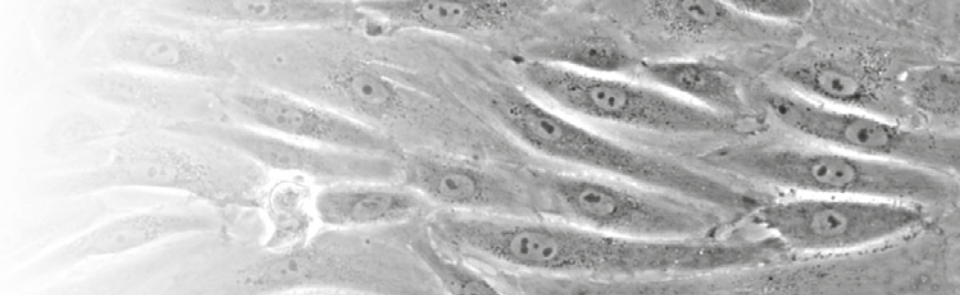
μ -Slide Spheroid Perfusion

A perfusable channel slide with 3 x 7 wells for long-term spheroid or organoid cultivation



μ -Slide VI^{0.4} With μ -Pattern

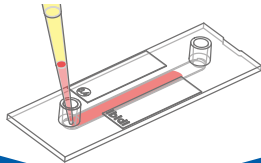
Ready-to-use micropatterned slides; available for single cell or multi-cell assays



ibidi Offers the Complete Solution for Your Flow Assay:

Sample Preparation

Setup your flow assay of choice and choose from our broad portfolio of channel slides

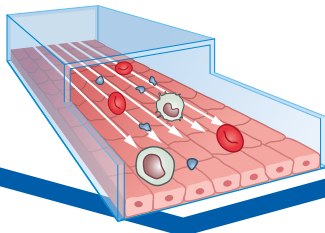


Channel Slides

Channel slides with a variety of heights and coatings for different shear stress ranges

Flow Conditioning

Apply unidirectional, oscillatory, or pulsatile flow using the ibidi Pump System

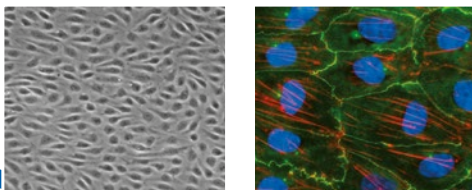


The ibidi Pump System

A perfusion system to cultivate cells under flow for the simulation of blood vessels

Staining and Microscopy

Image and stain cells directly in the channel slide

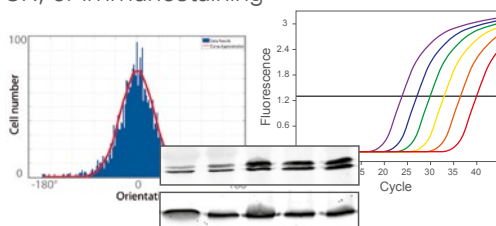


Contact ibidi for a **free demo** of the ibidi Pump System.

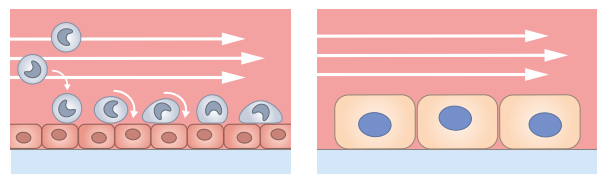


Downstream Analysis

Easily analyze your cells with, e.g., Western Blot, qPCR, or immunostaining



Experimental Examples



Rolling and adhesion

Cells under shear stress

Migration and Wound Healing Assays

Keep Your Assays Easy and Reproducible

- Perform your experiment of choice: Wound healing, migration, 2D invasion assays, or co-cultivation of cells
- Benefit from extremely high reproducibility due to the defined size of the Culture-Inserts' cell-free gap
- Save time with a quick and easy experimental setup and automated image analysis

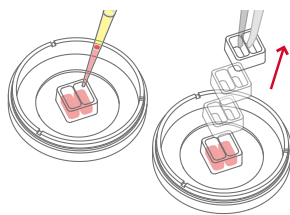
Download a detailed Application Guide at: ibidi.com/WoundHealingGuide



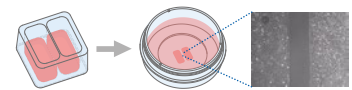
ibidi Offers the Complete Solution for Your Wound Healing or Migration Assay:

Sample Preparation

Setup your assay of choice in an easy and highly reproducible manner

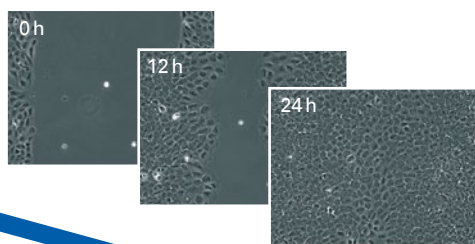


Culture-Insert
2 Well | 3 Well | 4 Well
Silicone insert with a defined cell-free gap



Live Cell Imaging

Measure migration and wound closure under physiological conditions in real time

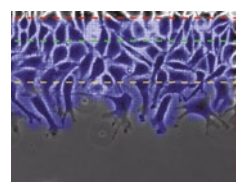
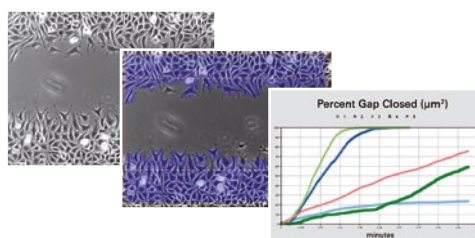


ibidi Stage Top Incubator

The ibidi solution for creating and maintaining a physiological environment (see page 6)

Data Analysis

Speed up your experimental workflow with quick and reliable automated image analysis



MetaVi Labs

Wound Healing
FastTrack AI Image
Analysis Software

Contact techsupport@ibidi.com to get free analysis jobs for direct testing with your data.

Chemotaxis Assays

Precisely Analyze Directed Cell Migration Behavior in 2D or 3D

- Investigate the migration of slow migrating cells (e.g., cancer cells) and fast migrating cells (e.g., immune cells) in a 2D or 3D environment
- Keep a linear and stable chemotactic gradient for over 48 hours
- Reduce your costs by using minimal amounts of medium and supplements

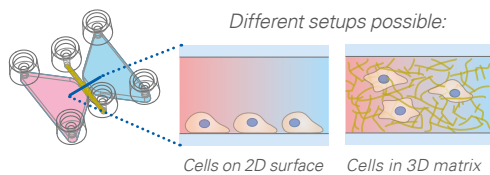
Download a detailed Application Guide at: ibidi.com/ChemotaxisGuide



ibidi Offers the Complete Solution for Your Chemotaxis Assay:

Sample Preparation

Create a precisely defined, stable chemotactic gradient in a reproducible environment

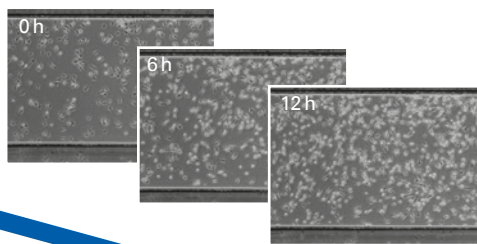


μ-Slide Chemotaxis

Specialized geometry and brilliant optical features

Live Cell Imaging

Measure chemotaxis under physiological conditions in real time

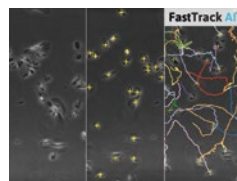
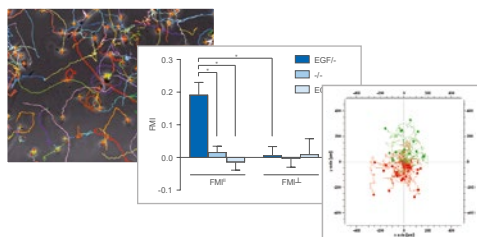


ibidi Stage Top Incubator

The ibidi solution for creating and maintaining a physiological environment (see page 6)

Data Analysis

Visualize migrational paths and analyze various parameters using machine learning-based software



MetaVi Labs

Chemotaxis FastTrack AI Image Analysis Software

Contact techsupport@ibidi.com to get free analysis jobs for direct testing with your data.

Angiogenesis Assays

Perform Tube Formation, Sprouting Assays, and 3D Cell Culture

- Investigate the behavior of endothelial cells using tube formation assays, sprouting assays, 3D cell culture, and immunofluorescence analysis
- Benefit from brilliant microscopic visualization without gel meniscus formation—all cells in one optical plane
- Reduce your costs by minimizing the amounts of Matrigel, medium, and supplements needed

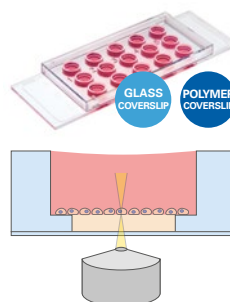
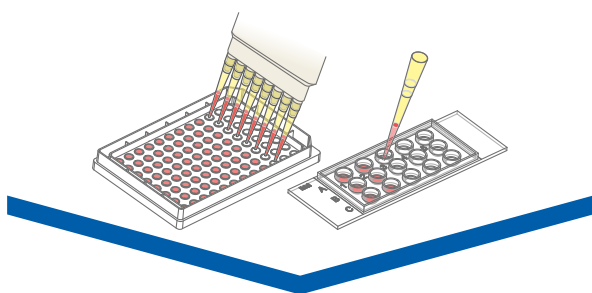
Download a detailed Application Guide at: ibidi.com/AngioGuide



ibidi Offers the Complete Solution for Your Tube Formation Assay:

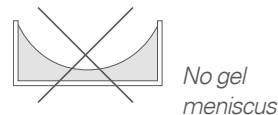
Sample Preparation

Seed your cells on minimal amounts of Matrigel and take advantage of the “well-in-a-well” feature



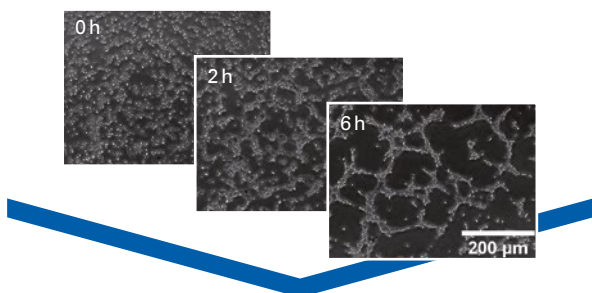
μ -Slide 15 Well 3D

The ibidi “well-in-a-well” technology reduces Matrigel amount to 10 μ l per well, and no gel meniscus is formed



Live Cell Imaging

Get brilliant microscopic images in real time under physiological conditions—without gel meniscus

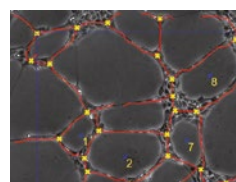
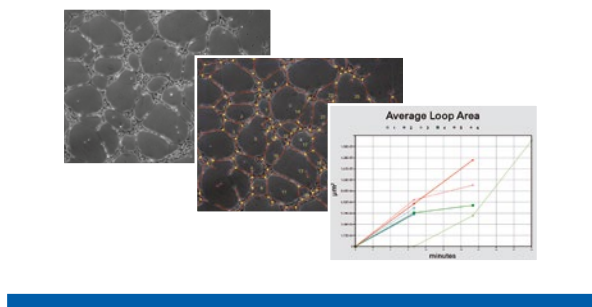


ibidi Stage Top Incubator

The ibidi solution for creating and maintaining a physiological environment (see page 6)

Data Analysis

Speed up your experimental workflow with quick and reliable automated image analysis



MetaVi Labs

Tube Formation
FastTrack AI Image
Analysis Software

Contact techsupport@ibidi.com to get free analysis jobs for direct testing with your data.

Immunofluorescence Assays

Tailored for Your Assay:
Choose From 3 Unique Solutions

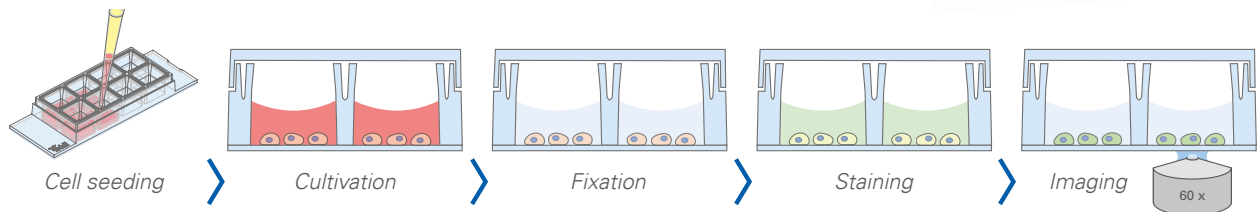
- Simplify your protocol with the ibidi all-in-one chambers
- Perform high-resolution imaging (e.g., widefield fluorescence, confocal, or undisturbed phase contrast microscopy)

Download a detailed
Application Guide at:
ibidi.com/IFGuide



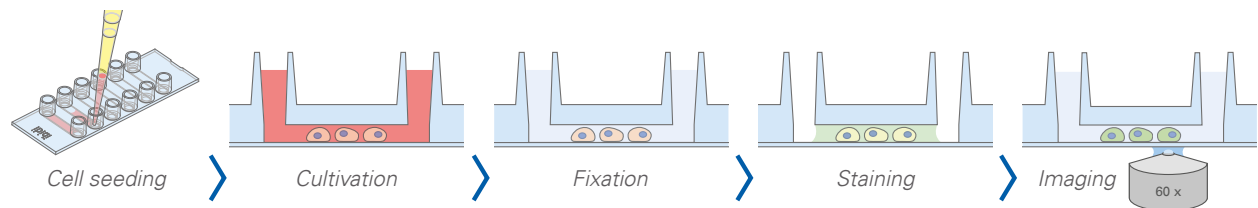
Chambered Coverslips

- Up to 18 non-removable wells on a coverslip bottom
- Separated wells to minimize cross-contamination
- Different coatings available



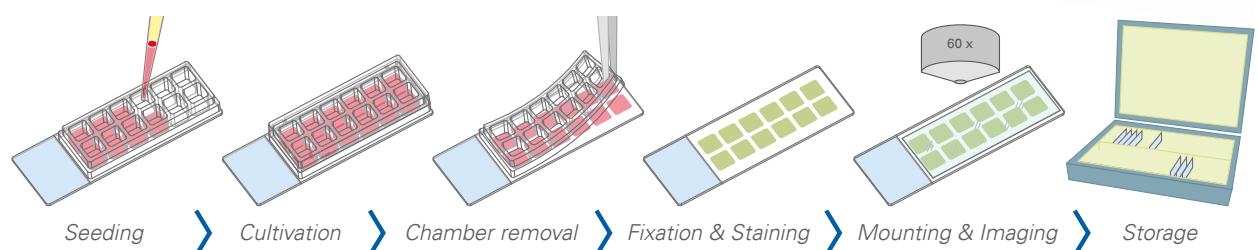
Channel Slides

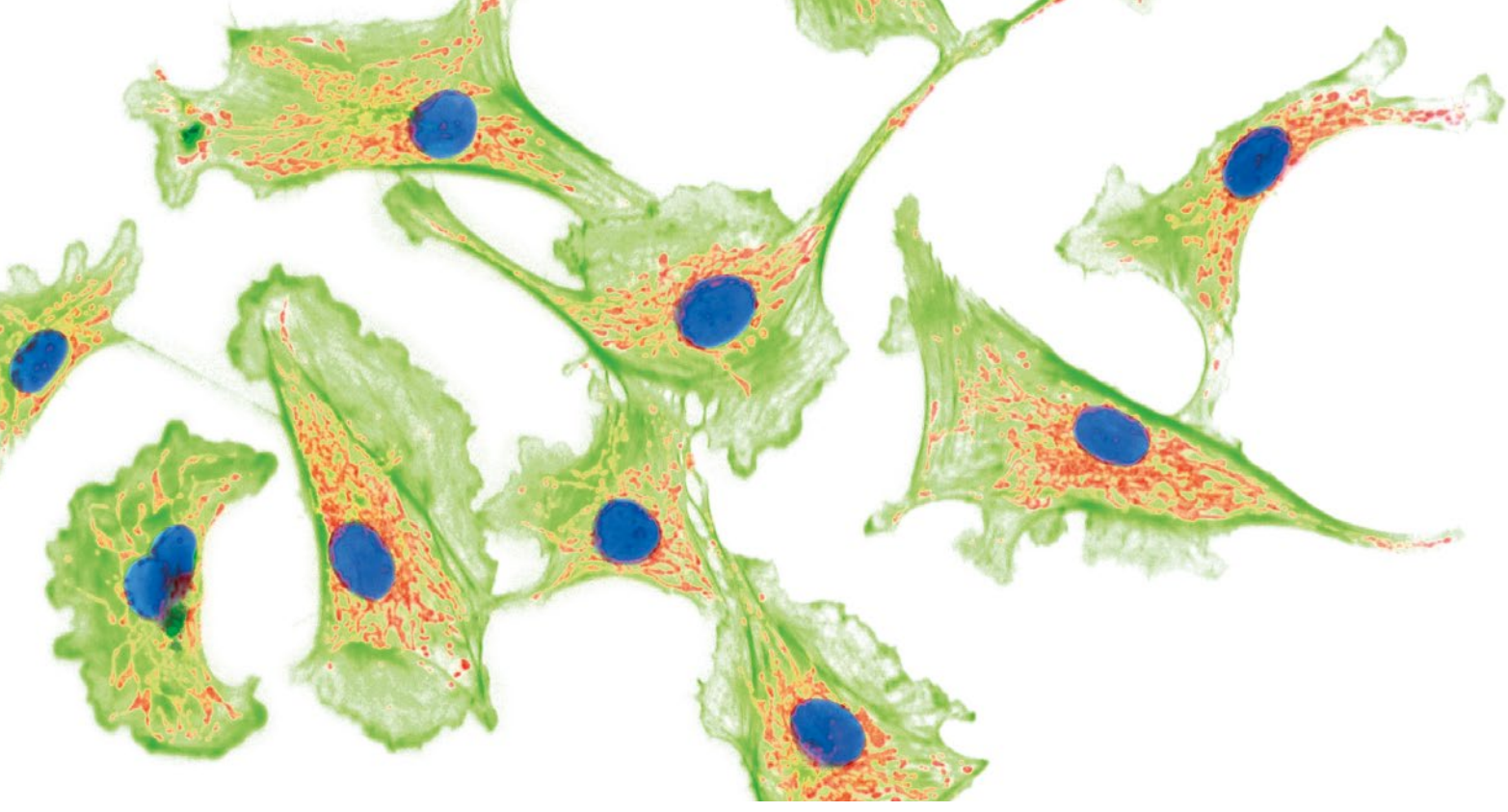
- Six parallel channels on a coverslip bottom
- Homogeneous cell and antibody distribution and low medium volume
- Different channel heights and coatings available



Chamber Slides

- Removable silicone chambers on a standard glass slide
- Ideal for long-term storage and upright microscopy
- Suitable for high-throughput screening





“

*I work with the **ibidi slides**
because they are superior to any other product
of this kind on the market.*

*They are **easy to use**, give **consistent results**,
economical and are suitable for
a **wide range of applications**.*

Well done, ibidi!

*Thomas A.J. McKinnon, PhD
Imperial College London, UK*



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