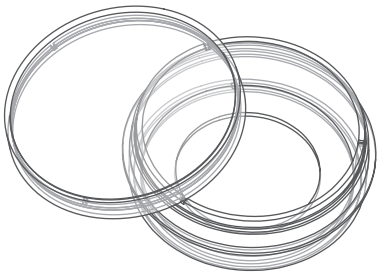
µ-Dish 35 mm, high ESS

Instruction Manual

cells in focus ibidi®



The ibidi labware 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 ibidi Polymer Coverslip is similar to that of glass, enabling a variety of microscopy techniques with uncompromised resolution and choice of wavelength.

µ-Dish 35 mm, high ESS is a 35 mm imaging dish with an Elastically Supported Surface (ESS) used for growing cells under *in vivo*-near conditions.

This document applies to the following products:

81291	**µ-Dish 35 mm, high ESS 1.5 kPa Uncoated**
81391	**µ-Dish 35 mm, high ESS 15 kPa Uncoated**
81191	**µ-Dish 35 mm, high ESS 28 kPa Uncoated**
81199	**µ-Dish 35 mm, high ESS Variety Pack Uncoated**

Material

The µ-Dish 35 mm, high ESS enables the culture of adherent cells on an elastic surface, mimicking a natural cell environment. The elasticity of the ibidi ESS is comparable to that in cells and tissue. A 40 µm highly elastic material (biocompatible silicone, refractive index = 1.42) is coated on a 100 µm glass coverslip. The whole bottom provides a thickness of 140 µm and highest optical quality. It is not possible to detach the bottom from the upper part. The dish is intended for one-time use and is not autoclavable, since it is only temperature-stable up to 80 °C/175 °F.

CAUTION – Be cautious when handling ibidi labware products with a glass bottom! The glass coverslip or slide is fragile and can break easily. Handle these items carefully to prevent physical injury and damage to devices due to medium leakage.

Shipping and Storage

This product is sterilized and sealed in a gas-permeable packaging. The shelf life under proper storage conditions (in a dry place, no direct sunlight) is outlined in the following table.

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

Shelf Life	
ESS	36 months

Geometry

Specifications	
⌀ µ-Dish	35 mm
Volume	2 ml
Growth area	3.5 cm^2
⌀ observation area	21 mm
Coating area	4.1 cm^2
Height with / without lid	14/12 mm
Bottom	Elastic surface on glass coverslip

Coating

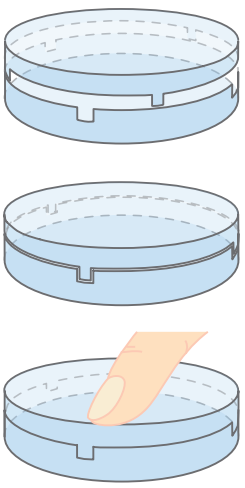
The µ-Dish 35 mm, high ESS must be coated to promote cell adhesion. Detailed information about coatings is provided in Application Note 08: Coating Protocols for ibidi Labware.

In short, specific coatings are possible following this protocol:

1. Prepare your coating solution according to the manufacturer's specifications. Adjust the concentration to a coating area of 4.1 cm^2 and a volume of 800 µl.
2. Apply 800 µl into the central growth area. Make sure that the entire bottom of the dish is covered with liquid by gently tilting or shaking it. Close the lid and leave the dish at room temperature for at least 60 minutes.
3. Aspirate the solution and wash with the recommended protein dilution buffer.
4. The coated dish is ready to be used.

CAUTION – Use the coated dish as soon as possible, since the ESS surface must not dry out after coating.

Lid with Locking Feature for Minimized Evaporation



Open position for easy opening

Closed position for cell cultivation with minimal evaporation

Lock position for long-term studies with almost no evaporation

Seeding Cells

1. Trypsinize and count the cells as usual. Dilute the cell suspension to the desired concentration. Depending on your cell type, application of a 4–9 × 10^4 cells/ml suspension should result in a confluent layer within 2–3 days.
2. Apply 400 µl cell suspension into the growth area of the dish. Avoid shaking, as this will result in inhomogeneous cell distribution.
3. After cell attachment, add 1.6 ml of medium to ensure optimal growing conditions.
4. Cover the dish with the supplied lid. Incubate as usual (e.g., at 37 °C and 5% CO_2).

CAUTION – We do not recommend filling more than 2 ml into the µ-Dish 35 mm, high ESS in order to avoid the liquid contacting the lid.

Insensitive cells can be left in their seeding medium for several days and grow to confluence there. However, optimal results might be achieved when the medium is changed every 2–3 days. For this, carefully aspirate the old medium and replace it by up to 2 ml fresh medium.

Microscopy

To image your cells, no special preparations are necessary. Living or fixed cells can be directly observed, preferably on an inverted microscope. For ESS µ-Dishes we recommend paraformaldehyde fixation. For optimal results in fluorescence microscopy and for storage of fixed and stained samples, ibidi provides mounting media that are optimized for ibidi labware:
Cat. No. 50001: ibidi Mounting Medium
Cat. No. 50011: ibidi Mounting Medium with DAPI

Immersion Oil

When using ibidi Glass Bottom products with oil immersion objectives, there is no known incompatibility with any immersion oil on the market. All types of immersion oils can be used.

Chemical Compatibility

The following table provides some basic information on the chemical and solvent compatibility of the µ-Dish 35 mm, high ESS. For a full list of compatible solvents and more information on chemical compatibility, visit ibidi.com/chemicals.

Chemical / Solvent	Compatibility
Methanol	Yes
Ethanol	Yes
Formaldehyde	Yes
Acetone	Yes, without lid
Mineral oil	Yes
Silicone oil	Yes
Immersion oil	See Section “Immersion Oil”

For research use only!

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