



Instruction for Use TPP Slidemax



The TPP Slidemax is a high-quality slide made of cyclo olefin polymer (COP) featuring an integrated chamber system. It allows experiments to be performed efficiently on a single slide and is available in variants with 1, 2, 4, or 8 chambers. Adherent cells can be fixed and stained directly within the chambers on the activated growth surface, eliminating time-consuming transfers and minimizing the risk of cell loss.

COP provides excellent optical properties thanks to its low autofluorescence, enabling high-resolution microscopy at wavelengths below 300 nm. Its chemical resistance allows the use of organic solvents for various staining techniques.

Only the growth surface of the slide is opto-mechanically activated, ensuring optimal cell adhesion and enhanced cell growth. This activation supports the efficient cultivation of adherent cells, enabling precise and reproducible experimental results.

The Slidemax lid ensures consistent and optimal gas exchange while minimizing evaporation through integrated spacers. The chamber and slide are permanently joined by ultrasonic welding, creating a robust and continuous material bond. This manufacturing process ensures a reliable and closed system under normal operating conditions.

The Slidemax system is permanently sealed during manufacturing and must therefore be regarded as a closed system. Once the seal has been compromised or opened, its integrity cannot be restored.

The TPP Slidemax is for single use only. Re-use disclaims all warranties.

Safety instructions

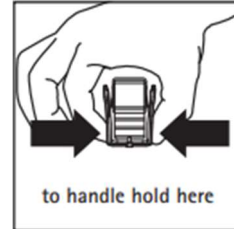
- **Handling and Safety**
Handling of biological materials shall be performed in full compliance with all applicable national and international regulations. Activities must conform to the laboratory's assigned biological safety level, the relevant Safety Data Sheets (SDS), and the manufacturer's Instructions for Use (IFU).
Appropriate personal protective equipment (PPE) shall be always worn during handling.
- **Risk of Contamination**
All operations shall be conducted in accordance with aseptic techniques and established Good Laboratory Practices (GLP). Packaging shall be opened immediately prior to use. Only products that are visually intact and free from defects shall be utilized. Products exhibiting visible damage, contamination, or any other irregularities shall be disposed of in accordance with applicable regulations.
- **Storage**
TPP products shall be stored under the following conditions:
 - Temperature: 10 °C to 30 °C (50 °F to 86 °F).
 - Light exposure: Products shall be protected from direct ultraviolet (UV) radiation.
 - Relative humidity: ≤ 60 %, with a recommended control range of 50–60 %.Storage conditions shall be monitored and recorded to ensure compliance with these requirements. Any deviations shall be documented, evaluated, and managed in accordance with the applicable quality.



Instructions

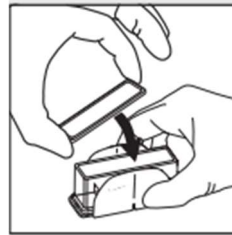
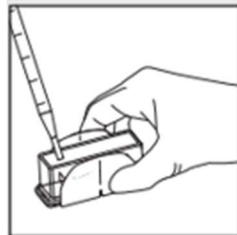
- Check the expiry date (EXP) on the label and packaging. Use only products with a valid EXP.
- Open the package in a sterile environment and remove a complete system for use.

Open the Package



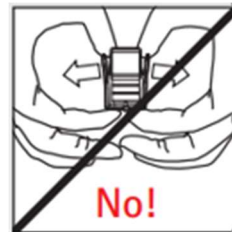
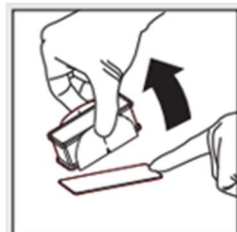
- Open the packaging from the underside by carefully peeling off the film.
- Remove the Slidemax by holding the designated grips on the sides.
- Avoid touching or scratching the slide surface.
- Do not lift the lid unnecessarily to prevent contamination.

Cultivation



- Open the Clipmax under aseptic conditions by lifting the lid.
- Add the culture medium and inoculum following standard laboratory procedures.
- Close the lid by carefully placing it onto the Slidemax.
- Do not cultivate the cells for more than 3 weeks at a maximum of 37 °C.
- Fixation and staining shall be performed directly on the slides according to the established protocol.

Remove Chamber



- To clip off the chamber, firmly press the upper portion of the wings together.
- Once you hear an audible "click," the microscope slide can be safely removed for imaging.
- Do not pull the wings apart or forcibly tear the chamber off the slide.



Optimization of Adherent Cell Growth

To achieve optimal proliferation of adherent cells on the surface, observe the following guidelines:

- Cells must be fully and gently resuspended to obtain a true single-cell suspension. Residual aggregates lead to heterogeneous settling and nonuniform attachment.
- Prevention of foam formation: Foam should be minimized during resuspension and seeding, as protein denaturation and trapped air bubbles can impair cell viability and gas exchange.
- Immediately after seeding, the culture vessel should be gently rocked in an orthogonal (cross-shaped) pattern to ensure homogeneous distribution of cells across the growth surface and to prevent central or peripheral accumulation (“bullseye effect”).
- The seeding density must be selected according to cell line specific recommendations. Excessively high densities accelerate contact inhibition, increase metabolic stress, and promote overcrowding artifacts.
- Incubator shelves must be precisely leveled to ensure uniform medium depth across the growth area. Tilted surfaces promote media pooling and cause heterogeneous attachment.
- Follow the vessel’s specified fill volume. Too little medium increases meniscus effects, leading to cell accumulation at the edges. Adjust medium volume and culture duration according to the specific requirements of the cell line.
Use 0.2–0.5 mL of medium per cm² of growth surface, corresponding to a medium height of approximately 2–5 mm ^[1]. Medium height, and therefore total volume, is a key factor for oxygen supply and influences the oxygen transfer rate (OTR) (Gstraunthaler et al., 1999).
- Vibrations in or around the incubator must be avoided, particularly during the initial attachment period, to maintain reproducible attachment patterns.
- Cultures shall be maintained under controlled environmental conditions (temperature, humidity, and CO₂ concentration). Maintenance of high relative humidity is critical to prevent evaporative loss, which induces a detrimental increase in medium osmolarity.

Sub-Zero Storage

- The Slidemax is not intended for sub-zero storage. Polystyrene (PS) exhibits significantly increased brittleness at temperatures below 0 °C (32 °F). Storage of PS products below this temperature shall not be performed, as the material is prone to spontaneous cracking and shattering, which may result in product failure and potential safety hazards.

General Handling and Limitations

- Before starting routine operations, perform a test run with your selected parameters to verify the system’s suitability for your specific application.
- The Slidemax system is permanently sealed during manufacturing and shall be considered a closed system. The integrity of the welded chamber-slide interface cannot be restored once compromised.
- Unclipping the chamber from the slide is irreversible. Reattaching the chamber on the slide will result in leaking, cross-contamination, sample loss or unreliable experimental results.
- Mechanical stress, material damage, or improper handling (e.g. bending, twisting, impact, or localized pressure) may compromise the integrity of the welded structure and lead to leakage between chambers or to the outside.
- Improper positioning of the lid may affect system integrity and increase the risk of contamination or leakage.
- Particular attention shall be paid to the chamber-slide interface. Any visible gaps, detachment, cracks, deformation, or other irregularities may indicate compromised sealing integrity. Such products shall not be used.



- Potential causes of compromised system integrity include, but are not limited to:
 - excessive mechanical stress
 - improper handling or transport
 - microcracks or material fatigue
 - use outside specified environmental condition
- Even when handled in accordance with these instructions, external mechanical influences or undetectable material defects may affect the integrity of the welded structure. A residual risk of leakage cannot be fully excluded.
- The slide features a labeling field.

Technical Data

Component	Material
Medium chamber	Polystyrene (PS)
Microscopy slide	Cyclo Olefin Polymer (COP)

Measurement:	71011	71012	71014	71016	71018
Heights mm	32	32	32	32	32
Width mm	33	33	33	33	33
Length mm	92	92	92	92	92
Refractive index nD 589 nm	1.52	1.52	1.52	1.52	1.52
Growth area cm ²	10.2	4.85	2.22	1.31	0.94
Rec. volume mL ^[1]	2.0 - 5.1	1.0 – 2.4	0.4 – 1.1	0.3 – 0.7	0.19 – 0.47
Outer dimensions slide Width x length mm	25 x 75	25 x 75	25 x 75	25 x 75	25 x 75

Additional Information

Instructions for use, chemical resistance lists, and quality certificates for individual products can be downloaded from the TPP website at www.tpp.ch.

Literature

[1] Amanda Capes-Davis, R. Ian Freshney (2010) Freshney's Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications (8th Ed.) - Wiley (p.180)

Disclaimer

TPP products are intended for Research Use Only (RUO) and are not approved for clinical, diagnostic, or in vitro fertilization (IVF) applications. The full Terms & Conditions, including limitations of warranty and liability, intended use, and reseller obligations, are available at:

https://www.tpp.ch/page/qualitaets_sicherung/index.php

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