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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 maintains consistent and optimal gas exchange while minimizing evaporation, thanks to integrated spacers. The biocompatible attachment between chamber and slide ensures a reliable seal. Chambers can be completely and residue-free removed from the slide by simple, irreversible unclipping, without the need for any tools.

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.

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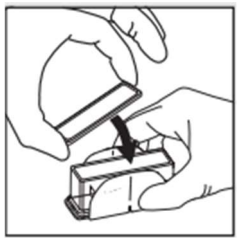
Open the Package

- 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, making sure it sits securely on the chamber to help prevent contamination.
- 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 cm^2 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 CO_2 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.
- These devices are stackable. Air vents on the top of the chambers ensure optimal heat distribution between stacked units.
- Unclipping the chamber from the slide is irreversible. Replacing the chamber on the slide would result in a leaking chamber system.
- The slide features a labeling field.

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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.

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

Distributors who purchase and distribute TPP products acknowledge and agree to these Terms & Conditions and the associated disclaimer.

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)