

Microfluidic Biopsy Holder: Enabling Long-Term Biopsy Studies

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Introduction

Being able to observe a biopsy for days or even weeks with confocal precision, while keeping them in a steady environment that allows for cells to grow is a step change in cancer research and immunology. When considering the needs of the cells for constant exchange of medium while keeping them in the same focal plane a stable positioning of the biopsy is both critical and challenging. The Microfluidic Biopsy Holder MK3 enables long-term biopsy viability through continuous perfusion, allowing for real-time observation (e.g. confocal fluorescence microscopy) and polyomic analysis (metabolomics and proteomics). Designed for ease of use and precision, it fits standard microscopy holders (25 mm x 75 mm) and can be adapted for various biopsy shapes and sizes.

Application Examples

- **Cancer Research:** Study tumor biopsies over extended periods.
- **Polyomics Studies:** Collect biochemical data while keeping the sample perfused.
- **Drug Testing:** Observe biopsy reactions to drugs
- **Cell-Cell-Interaction:** Determine how T-cells, B-cells, etc. interact with different cell types in your biopsy.

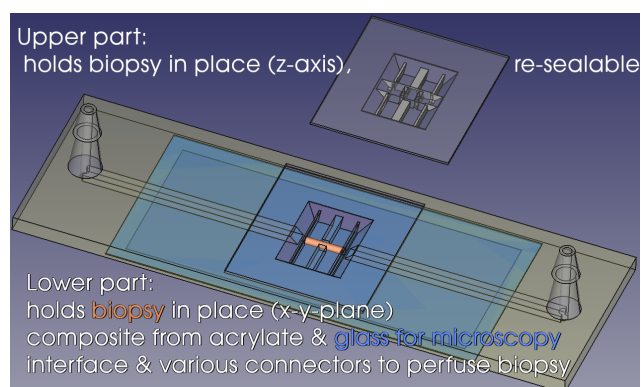


Figure 1: Schematic of the Biopsy Holder Mk3

Specifications

- **Microscopy Compatibility:** Fits standard microscopy slides (25 x 75 mm²). Plate-reader compatible options available.
- **High Transparency:** Optimized for fluorescence, confocal, and Raman microscopy.
- **Easy (re-)sealing:** Allowing you to retrieve and e.g. (re-)stain the biopsy, and re-use the holder.
- **Custom Connection:** Various connectors (e.g. luer-lock, tubing cones, etc...) can be built into the holder for seamless integration.
- **Material Quality:** Plant-based acrylate, for high-end applications, a parylene coating is possible to completely shield your sample.
- **Fits your biopsies:** Supports and securely holds biopsies of 5 mm length and 1 mm diameter. Different size? Just contact us!

