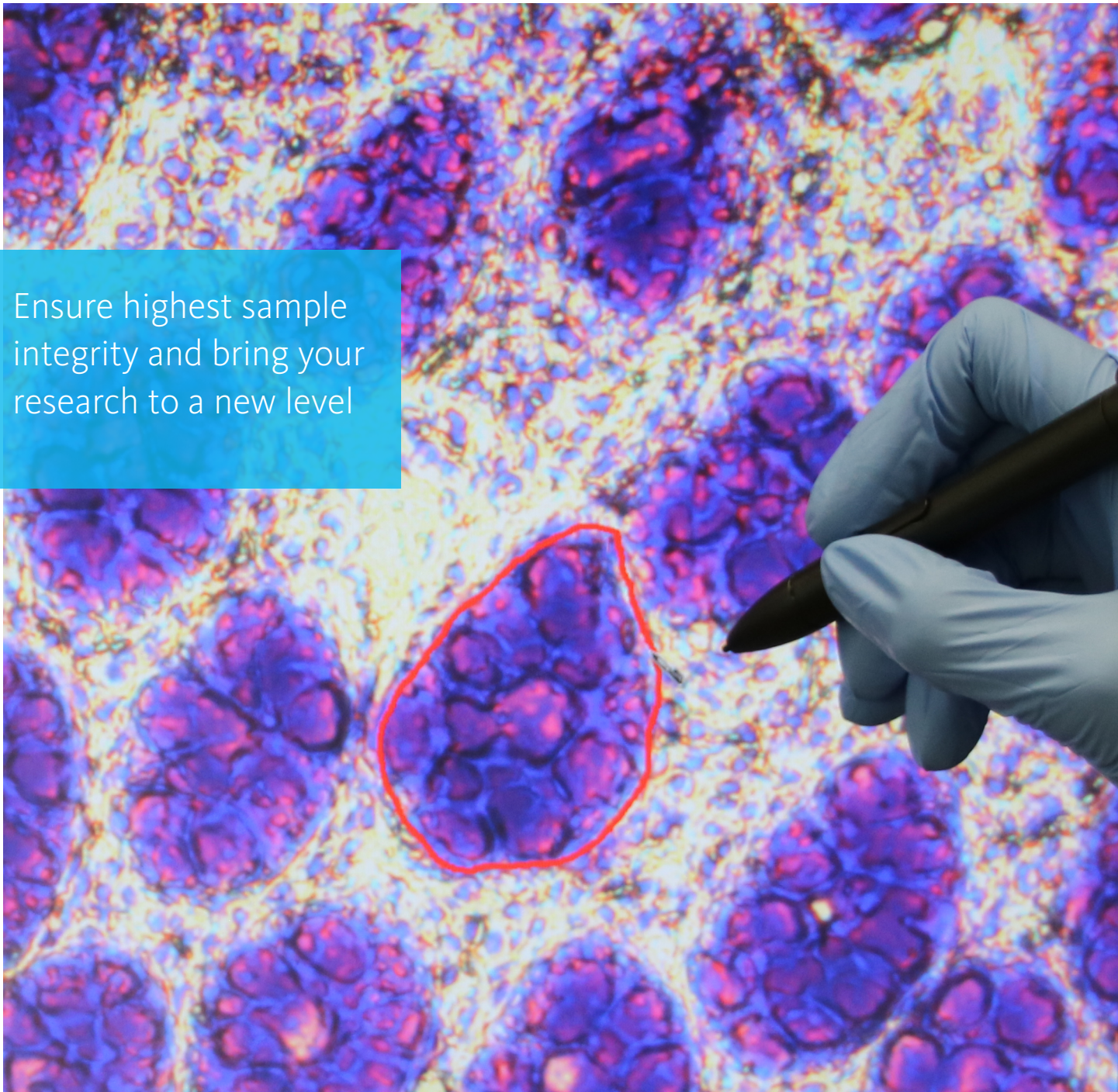




CellCut: The most gentle laser microdissection

Just Cut It!

Ensure highest sample integrity and bring your research to a new level

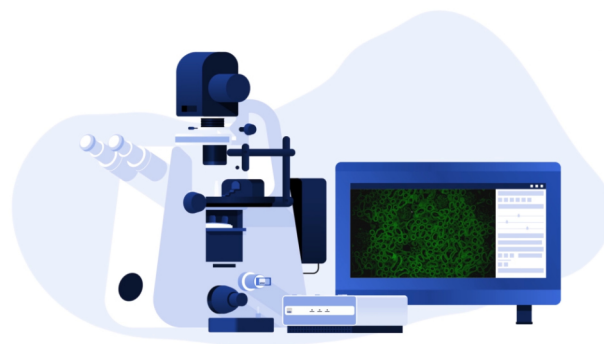


Dissection Perfection

Single cell isolation in combination with laser microdissection (LMD) is a technology for precision sample preparation. Many research areas use LMD as the basic prerequisite for obtaining well defined starting material to be used in downstream experiments.

Most precise and gentle laser microdissection

To assure meaningful data from a specific cell, precisely cut cell clusters, single cells, or subcellular compartments, MMI CellCut combines the most precise cutting performance while ensuring outstanding sample integrity. This gives you the highest flexibility and ease of use, bringing your research to a new level!



Animated illustration of the MMI CellCut laser microdissection system. The system is compatible with inverted microscopes from various leading manufacturers.



Gentle to Cells

CellCut ensures highest sample integrity by sterile cutting and collection for highly efficient downstream applications.



High-Throughput

Isolate your ROIs into single tubes, strips, or 96-well plates.

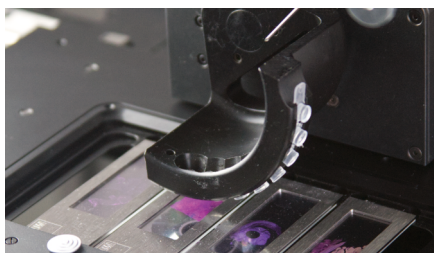
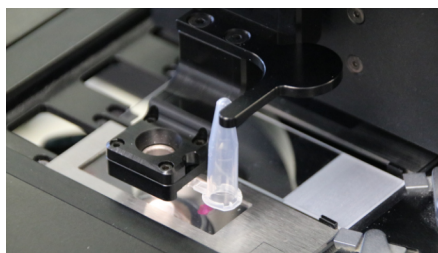


Contamination-Free Cutting

The sample is mounted between a glass slide and the carrier membrane. The sample itself is never exposed.

Select Your Throughput

The MMI CellCut can be used for a variety of throughput options for automated single-cell isolation. It employs a gentle UV laser to maintain sample integrity while the Cap-Lift technology ensures near 100% collection efficiency. Cells can be isolated into individual tubes (Single Caps) or into strips containing eight separate tubes (MultiCap). For high-throughput applications, cells can also be isolated into 96-well plates (CellCut HT).

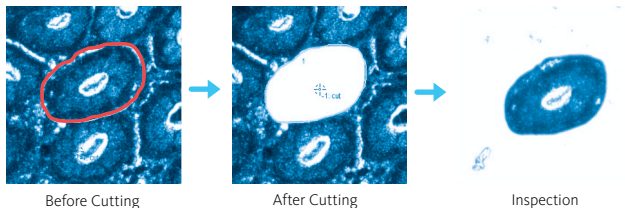


Left: CellCut – isolation of single cells into reaction tubes. **Middle:** CellCut – isolation of single cells into 8 tube strips. **Right:** CellCut HT – high-throughput isolation into 96-well plates.

Never Lose Your Sample



The unique CapLift technology provides automated transfer of untainted targets into tubes or 96-well plates, which enables subsequent visual inspection.



Before Cutting

After Cutting

Inspection

Unmatched collection efficiency

The transfer of isolated ROIs into single tubes or a 96-well plate offers unmatched collection efficiency. The sample is isolated onto an adhesive silicone membrane and can be easily retrieved for downstream applications.

Always check your cutting efficiency

The MMI CellCut enables full visual inspection of your sample during and after isolation. Cell orientation is preserved, allowing easy verification of the dissected material. In addition, an automated report is generated for every dissection, including images captured before and after the procedure, ensuring complete documentation and full traceability of each step.



Cut it All

Isolate single cells, larger ROIs, or even subcellular compartments (fresh frozen tissue, FFPE, plant tissue, smears, cytopspins and living cells).



Keep it Flexible

Broad compatibility with diverse microscopes, nearly all objective lenses, and all common imaging modes.



Become an Expert in 10 min

With the intuitive and flexible MMI CellTools software, you simply select, cut and inspect your sample.



Deep Visual Proteomics

Deep visual proteomics (DVP) is an advanced, multi-modal technology which bridges morphological imaging with quantitative proteomics. It allows proteins to be analysed directly within their spatial tissue context. DVP integrates high-resolution fluorescence or brightfield microscopy, artificial intelligence-driven image analysis, and ultra-sensitive mass spectrometry to resolve proteomes at the level of morphologically defined cell populations or even single cells.

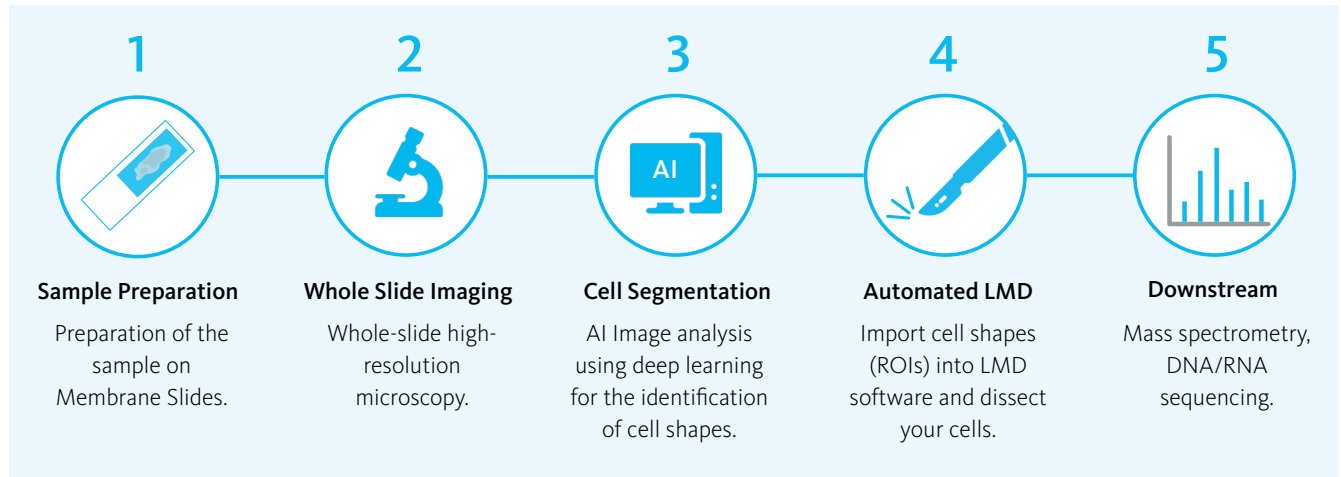
The MMI CellCut enables seamless integration into the DVP workflow. As the only LMD system capable of precisely isolating complex ROI smaller than 10 µm, it sets a new standard for precision. Its short-pulse laser produces an exceptionally thin cutting edge of just 0.3 µm (using 5–10 µm FFPE tissue), enabling unmatched accuracy.

Automated Workflow for Spatial Omics

The MMI CellCut enables fully automated Laser Microdissection (LMD) for advanced spatial omics studies, allowing researchers to isolate and decode molecular signatures of individual cells in their native environment.

The future in spatial omics research

Starting with prepared tissue on membrane slides, AI-driven single-cell segmentation is combined with automated laser microdissection via CellCut or high-throughput CellCut HT. This ensures precise, reproducible cell isolation with minimal manual intervention.



Real Insights from Experts



"I have compared all current available LMD platforms thoroughly and I got to say the CellCut is the most impressive one and I highly recommend it to our colleagues. Thanks for bringing it to me."



Guangdun Peng, Ph.D.

Guangzhou Institutes of Biomedicine and Health
Guangzhou, China

"We appreciate the resistant MMI product quality, the professional consulting, and the competent and quick service. MMI instruments are an important basis for our in-situ analysis in cellular tissue. The MMI CellCut laser microdissection followed by gene expression analysis is complementary for further routine methods like conventional optical microscopy (fluorescence), in-situ hybridization, and immunohistochemistry."



Prof. Dr. med. Danny D. Jonigk

Director of the Institute of Pathology
Aachen University Medical Center

CellCut_Brochure_4P_EN_A_all microscopes

Manufacturer: Molecular Machines & Industries Germany | Switzerland | Hong Kong | USA
Breslauer Strasse 2, 85386 Eching, Germany • Phone (Germany): +49 89 319 048 40 • Phone (USA): +1 331 716 2447
Email: info@molecular-machines.com • www.molecular-machines.com

Book a Demo

