

CellEctor: Selection & Isolation of Single Cells

Cell Picking Like a Pro



A new generation of
microscopy based
single cell sorting

When Every Cell Counts

The MMI CellEctor allows researchers to isolate and manipulate desired cells without the need for complex sorting techniques like Fluorescence-Activated Cell Sorting (FACS). While FACS is efficient for high-throughput sorting based on specific markers, it may not be suitable for certain applications where the target cells are rare or require more precise selection.

Up to 100% picking/transfer efficiency of living or fixed cells

Cell picking with the MMI CellEctor provides a viable alternative, enabling researchers to manually choose and collect individual cells of interest. This picking process enables an extremely gentle cell transfer for the highest cell integrity and outgrowth rates after cell transfer.



The MMI 3D CellRobot for rapid and ultra-precise recognition, acquisition and deposition of single or rare cells in suspension in a 96-well format.



Why Using Cell Picking?

The MMI CellEctor is crucial when precise examination of individual cells is required, even in cases of limited cell quantities.



User-defined Liquid Handling

Full optical control of your own workflow for single cell isolation in suspensions. Compatible with a wide range of slide-based platforms.



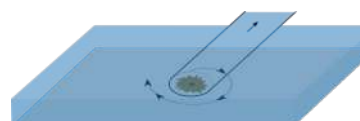
Unmatched Precision

High-precision microfluidic cell picking robot for gentle cell transfer for the highest cell integrity and growth rates after cell transfer.

Isolation of Adherent Single Cells

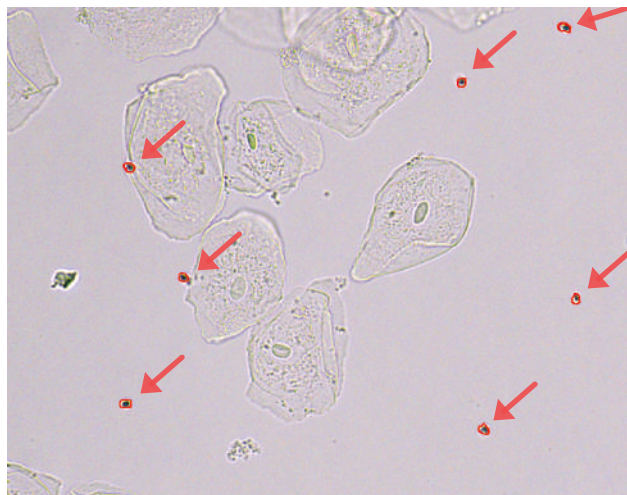
The isolation of adherent single cells is challenging since the adhesive forces prevent detachment and uptake of the cells. Living adherent cells can typically be detached by trypsinization, but the cells' RNA and protein expression profile will be altered by this treatment, leading to biased transcriptomics or proteomics data.

With the ground-breaking **shake mode** feature, the MMI CellEctor cell picker can isolate adherent cells without compromising their viability or integrity. Thus, living adherent cells can now be selectively isolated and utilized for any downstream applications, even for sensitive RNA expression analysis.



Top: A single adherent HeLa cell is detached by gentle shaking and taken up by the capillary. **Bottom:** Schematic representation of the Shake Mode function. *Selective Isolation of Adherent Single Cells, MMI Application Note.*

Automated Cell Detection



Automatic detection of sperm cells (highlighted in red) of a vaginal swab. These sperm cells can be individually isolated for forensic DNA profiling.

Update your cell picking system with the optional MMI

CellDetector. Cell Detector is an artificial intelligence analysis software that automatically detects rare cells from any sample based on their color (fluorescence), morphology and relative size.

Improved isolation quality and throughput

Automated cell detection with CellDetector eliminates the need for time-consuming manual searching and therefore ensures optimal work away convenience. Never before has the isolation of your target cells been so effortlessly precise.

Fundamental in Forensics

A particular application is the isolation of individual sperm cells from a vaginal swab for DNA profiling. This approach is of particular interest when considering multiple perpetrators.



Automated Cell Detection and Picking

Use the optional MMI CellDetector AI analysis software to detect and isolate fully automated rare cells.



Most Flexible Cell Picking System

CellEctor is compatible with most inverted microscopes and fully expandable with all other MMI solutions.



Isolation of Single Cells like a Pro

With the intuitive and flexible MMI CellTools analysis software you achieve accurate and precise cell isolation and depositions. Cell picking was never so easy.



Illustration of a circulating tumor cell

Isolation of Circulating Tumor Cells

Circulating tumor cells (CTCs) are cells that have shed into the vasculature or lymphatics from primary tumors and circulated throughout the bodies via the bloodstream. Interestingly, CTCs have the ability to establish metastases in various organs. Moreover, CTCs are believed to embody complete tumor heterogeneity and reflect the mutational burden present in cancerous tumors.

Consequently, the isolation of individual circulating tumor cells is of great importance to study tumor heterogeneity, contributing to improved understanding and management of a wide range of cancer types, including breast cancer, prostate cancer, and lung cancer. The CellEctor cell picker allows the precise selection of single CTCs for subsequent analysis. Thus, the MMI cell picking system contributes to the development of personalized medicine approaches and non-invasive monitoring of cancer patients.

Identify | Pick | Deposit - CellEctor will do the rest

Cell picking with the MMI CellEctor gives the user complete control in manual and automated cell identification, acquisition and deposition. The cell picking process is contamination-free and supports a broad range of sample types. The high flexibility of the cell picker enables you to define your own workflow. Just select the wells for cell picking, deposition and rinsing using a wide range of slide-based platforms.



Cell picking with various capillaries and slide platforms

The MMI CellEctor is pre-configured with a broad range of slides and well-plate formats. You can sort cells even in a 96-well plate to maximize your throughput. In addition, there are multiple capillaries with different diameters available (from 10 μm – 160 μm). Just use the appropriate capillary for your rare cell type.

Better service starts here



"At Simfo, we are interested in analyzing molecular profile of circulating tumor cells (CTCs), because CTCs reflect the real status of tumor genotypes. CTCs exhibit high heterogeneity within a patient and for this reason we analyze individual CTCs for KRAS, BRAF and EGFR mutations.

The MMI CellEctor cell picker instrument allows us to precisely select single CTCs from patient samples in order to individually analyze their genomic integrity – an important pre-requisite for our research."



Dr. Monika Pizon

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CellEctor_Brochure_4p_EN_A

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