PIEZOELECTRIC PIPETTE ISOLATING SINGLE CELLS ON A MICROSCOPE
TO DISCOVER SINGLE CELL GENETICS AND MORE

MAIN FEATURES

- Unprecedented single cell isolation efficiency
- New standard in precision - *1 nanoliter pipetting accuracy*
- Can isolate both suspended and surface attached cells
- Viable cells after sorting. One single cell arrives to each PCR tube
- 10 PCR strips containing 80 tubes can be filled in a cycle
- Microwell arrays for testing single cell deposition *in situ*
- Pick up volume of ~1 nanoliter - deposition volume less than 5 nanoliters
- Speed: 3-4 cells/min. - when collecting multiple cells sorting speed is 1 cell/second
- Both unlabeled and fluorescent cells are recognized by computer vision
- Sort cells labeled by fluorescent molecular probes or markers
- Multichannel detection using the fluorescent filter setup of the microscope

COMPACT DESIGN

For single cell DNA/RNA sequencing, CTC detection or protein engineering

PHENOTYPE BY MICROSCOPE
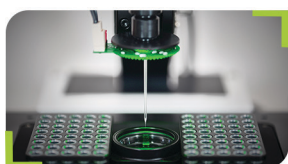## GENOTYPE BY NEXT GENERATION SEQUENCING

IMAGE, ISOLATE, SEQUENCE

Integrated compact device - straightforward operation. Compatible with super-resolution microscopy and high content screening. Sequence exactly that cell you need.

PRECISION

High resolution imaging combined with better than 1 nanoliter liquid handling accuracy

EFFICIENCY

New standard in single cell isolation >90% efficiency

INSTALLATION & SERVICE

On-site installation and hands-on training, Long term technical support incl. free software upgrades. Annual service available

SCIENTIFIC REFERENCES

B. Francz et al.: Subnanoliter precision piezo pipette for single cell isolation and droplet printing, publication to appear, 2019.

SINGLE CELL ISOLATION EFFICIENCY

3T3 Cells — 6% / 94%

Jurkat Cells — 8% / 92%

- Single Cells
- Cells Not Picked
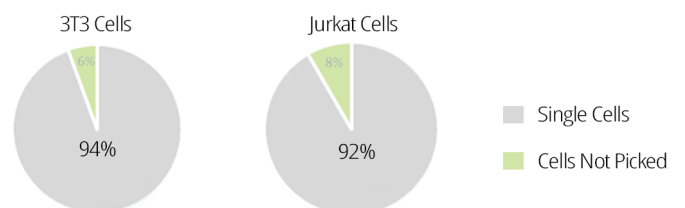
PATENTED TECHNOLOGY

B. Szabó: Piezoelectric micropipette, Patent pending, 2017-

COMPONENTS
PRECISION & RELIABILITY

- Next generation piezoelectric sorting head
- Built-in LED illumination for high quality phase contrast imaging: Ph1, Ph2
- CellSorter control unit
- USB connection to the computer
- High speed motorized vertical micromanipulator
- Manual horizontal micromanipulator for aligning the micropipette

- Special aluminum sample holder fitting to the microscope stage with a hole and magnetic fixing ring for the 35 mm Petri dish and 80 holes for 10 PCR stripes
- 32x24 mm^2 glass cover slip or miniature microplate for *in situ* testing and high-resolution imaging
- High precision borosilicate glass micropipettes

OUR TECHNOLOGY

COMPACT DEVICE
PIEZOELECTRIC SORTING HEAD
COMPUTER VISION
SOFTWARE
GLASS MICROPIPETTES

COMPACT DEVICE

— Next generation sorting head
— Small form factor CellSorter control unit
— Compatible with most inverted microscopes, e.g., Zeiss, Nikon, Olympus, Leica.

— High speed motorized micromanipulator
— Digital camera
— Desktop computer or laptop

PIEZOELECTRIC SORTING HEAD

— Better than 1 nanoliter liquid handling precision
— Built-in LED illumination for phase contrast imaging
— Simple installation

— Flexibility with application for a wide range of single cell experiments
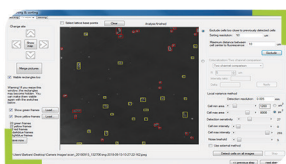
COMPUTER VISION

— Exceptional cell recognition efficiency
— Detects unlabeled cells in phase contrast images
— Cell detection can be optimized in less than a minute
— Recognizes fluorescent cells in multiple channels

— Two-channel comparison for co-localization and more
— Cell size, and brightness can be selected
— Compatible with advanced external cell detection algorithms
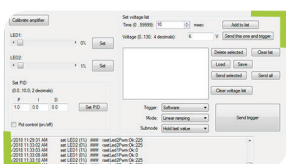
SOFTWARE

— Intuitive graphical user interface
— User friendly structure with brief tutorials
— Saves all data for further analysis or publication

— Save the live view camera image for documenting the experiment
— Can control most microscopes, cameras and motorized stages compatible with the open-source Micro-Manager software
— Runs on MS Windows OS
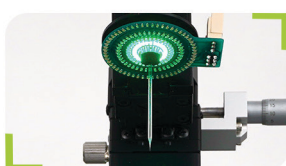
MICROPIPETTES

— Calibrated borosilicate capillaries developed for single cell sorting. Aperture: 5-70 µm
— Optimal micropipette size can be chosen depending on your specific application