

cellenONE®

Single cell sorting, isolation & nanoliter dispensing
for omics, rare cells and cell line development applications



About cellenONE®

cellenONE® is a unique platform combining high accuracy single cell isolation and precision nanoliter reagent dispensing, allowing miniaturization of a range of single cell omics protocols and enabling automated cell line development workflows with best-in-class clonal outgrowth.

cellenONE® enables

- Single cell sorting and isolation
- Miniaturized single-cell omics workflows
- Automated cell line development
- Processing of any sample
(from just 1 cell up to 50,000 cells)

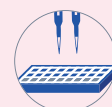
Key features



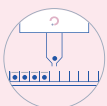
100% single cell



Optional integration in
Class II Biosafety
Cabinet for sterility



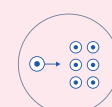
Combined with
nanoliter reagent
dispensing



Fluorescence and
brightfield image-
based sorting



Image recording for
every cell



Best clonal
outgrowth rate



Benefits

Accuracy

- Up to 100% single cell accuracy (no doublet, no empty well, no debris)

Image-based technology

- User-defined sorting parameters (morphology and/or fluorescence markers)
- Increased assurance of monoclonality – fully documented with automated PDF report generation
- Immediate visual feedbacks on sample preparation (e.g. quality of tissue dissociation)
- Link phenotypic and morphological information with omics data

Miniaturization

- High precision pL to nL reagent dispensing
- Compatible with a wide range of reagents (both aqueous and organic)
- Temperature, humidity and dew-point control to prevent evaporation

Versatility

- Any cell type, from microbial cells to large cells (0.5 – 80 μm)
- Compatible with any standard well plate (i.e. 96-, 384-, 1536-) or custom labware

Viability

- Ultra-gentle dispensing technology offers best-in-class clonal out growth
- Temperature control improves fragile cells' viabilities (e.g. iPSC)

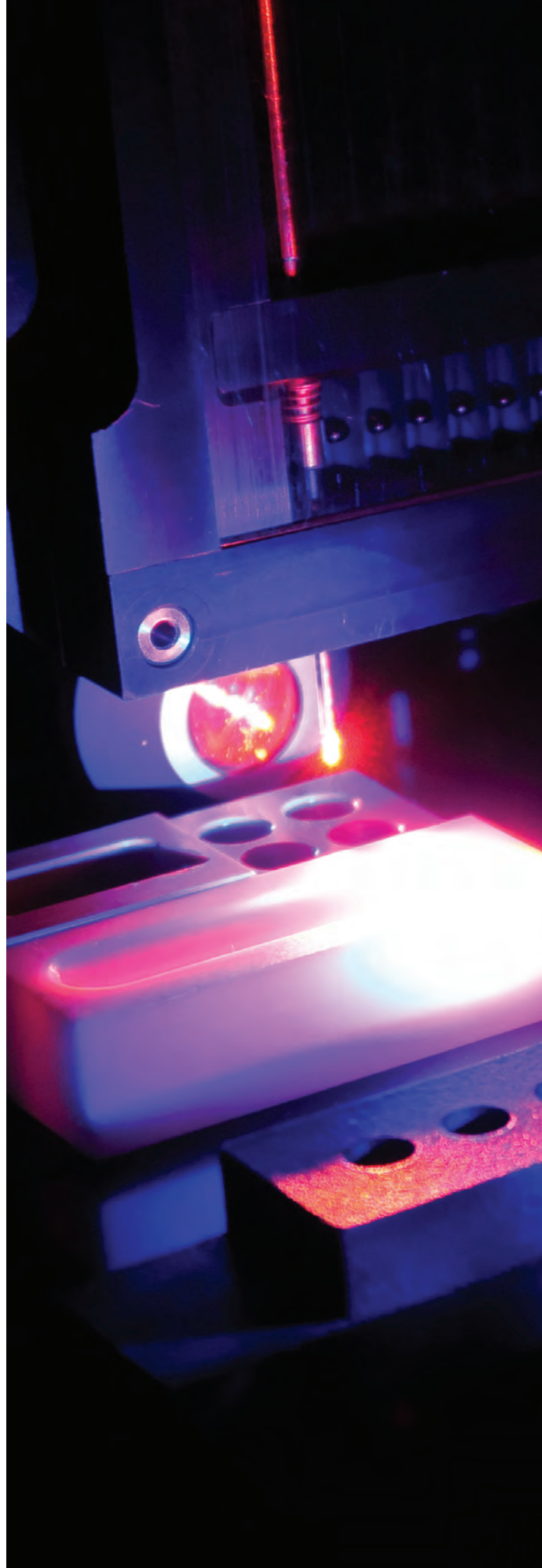


Ideal for rare cells

- Compatible with samples containing very few cells (e.g. spheroids, organoids, microbiopsies)
- Any sample volume from just 1 μL (no dead volume)
- Recovery tube collects all non-isolated cells for reprocessing and maximal recovery of precious samples

Time and cost savings

- High throughput: isolate 96 cells in less than 3 minutes
- Automation and miniaturization of workflows reduce labour and reagent consumption
- Save several weeks compared to traditional cell line development workflows (e.g. limiting dilution)



Technology

Piezo-acoustic droplet generation for ultra gentle cell isolation

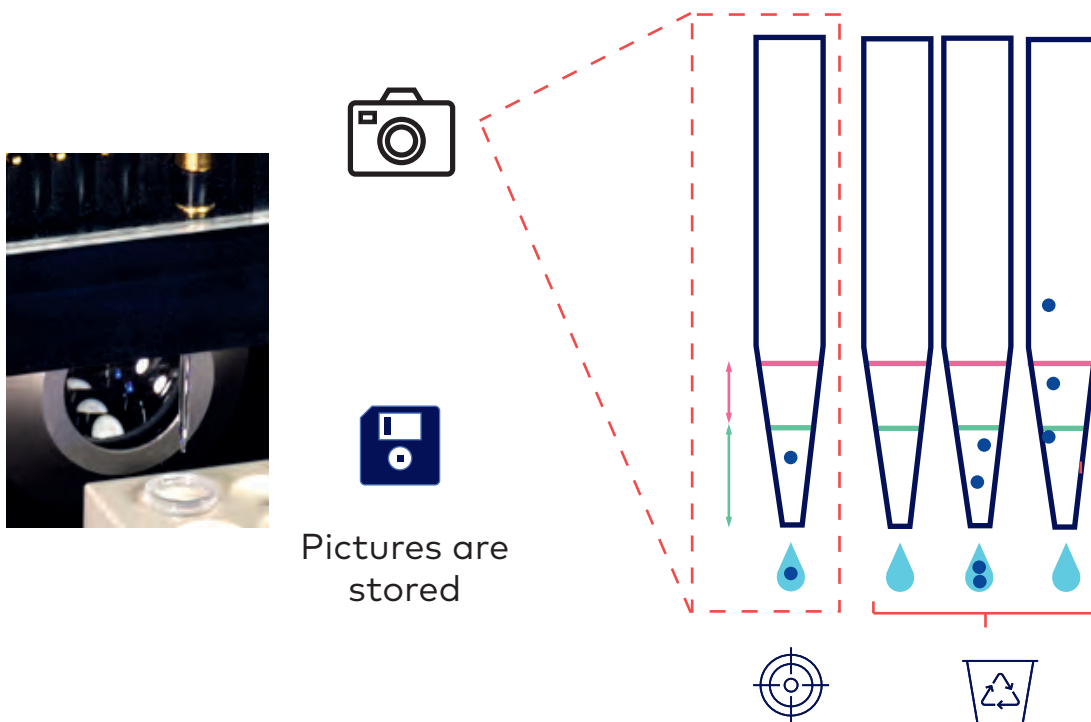
Image-based, multi-parameter detection and sorting

How it works

1. Cell suspension is loaded in a glass capillary
2. Capillary tip is placed in front of an optical system
3. Capillary tip is segmented into two zones

Ejection Zone = volume corresponding to the next generated droplet

Sedimentation Zone = safety zone considering possible cell sedimentation



4. If the next droplet contains only a single cell that fits user-defined parameters (size, fluorescence markers), it is dispensed into target labware. Otherwise, it is dispensed into a recovery vial allowing reprocessing

Applications

Single Cell Omics

Isolation and
sample preparation
prior to analyses

Cell Line Development

Automated cloning



These are just some of the main applications enabled by cellenONE®. If you'd like to undertake other applications or discuss your single cell application needs, our Sales and Application teams can assist.

Product Specifications

Sorting Technology	Brightfield and/or Multi-fluorescence (Blue, Green, Orange and Red) images
Dispensing technology	sciDROP PICO: 250-600 pL / single drop
Number of dispensing channels	Up to 2 channels
Spottable area (X x Y)	252 x 112 mm
Target capacity	2 MTPs or 8 standard glass slides
Axis system	X-Y Linear Magnetic Drive, Z Spindle Drive
Axis precision	< 3 µm
Dimensions with enclosure (L x Z x H)	650 x 700 x 1590 mm
Weight	Approx. 242 kg

**Do you want to see
cellenONE in action?**

Contact our experts!



cellenion.com



Contact Us

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