Pala Cell Sorter & Single Cell Dispenser

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Cell Sorters and Single Cell Dispensers from Bio-Techne provide the fastest and easiest solution for single cell sorting and isolation.

Request Demo or Info

Scan the QR Code or Contact:
bio-techne.com/pala

The Pala™ benchtop instrument combines innovative microfluidics technology with flow cytometry and liquid dispensing to sort and dispense single cells into 96-well or 384-well plates in minutes. Low system pressure (<2 psi) ensures gentle sorting and preserves cell viability and integrity. Bio-Techne's innovative cell cartridges eliminate the risk of sample carry-over and enable sterility, making it faster and easier to run multiple samples or cell types.

The Pala System is ideal for a wide range of single cell applications, allowing users to quickly and gently plate cells for cloning with improved outgrowth, generate high-yield single cell genomics libraries, or recover single cells from precious samples with as few as 100 cells.

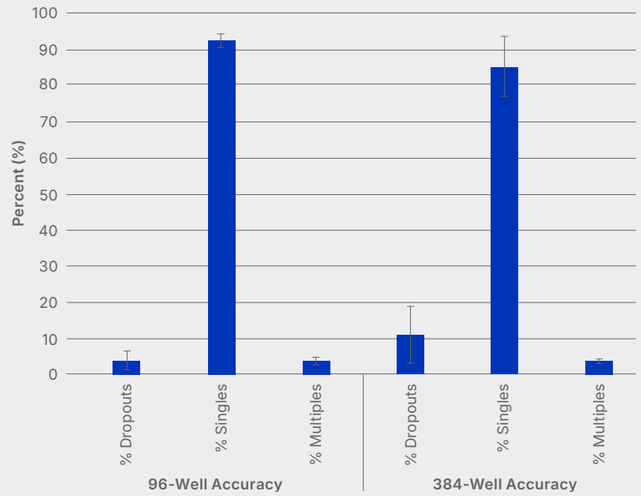
The Fastest Way to a Single Cell

- **Single Cell Dispensing** → Dispense single cells into a 96-well plate in <2 minutes or 384-well plate in 6 minutes
- **Rare Cell Enrichment** → Enrich rare cells with 0.1% or lower abundance
- **Bulk Cell Sorting** → Sort cells with up to 85% purity at 100,000-300,000 cells/mL

Reliable deposition of single cells into tissue culture plates (one cell per well) is an essential consideration for clonal cell isolation and expansion. Pala Cell Sorter and Single Cell Dispenser provide a fast and reliable alternative for single cell isolation, alleviating the need for manual pipetting while preserving cell integrity by sorting at a gentle pressure of <2 psi.

FIGURE // 01

Dispensing Accuracy - Pala



Deposition rates were calculated for single beads, multiples, and empty wells after visual inspection scoring of 36 plates in each condition.

Advantages

Fast

Single cell dispensing in <2 mins / 96–well plate and 6 min / 384–well plate

5 min system initialization

Gentle

Low pressure preserves cell viability and integrity

Flexible

Work with sample density ranging from 1,000 cells/mL to 1M cells/mL

Sort cells using water, PBS or serum free culture media

Simple

Fully automated, no calibration needed, low maintenance and easy to use intuitive software

Compact

Lightweight and portable

Fits inside most Class II Biosafety Cabinets

Cell Cartridges

High Cell Viability & Outgrowth

Low sorting pressure (<2 psi) preserves cell viability and integrity and delivers high outgrowth.

Low Sample Input, High Recovery

Near zero dead volume enables handling of small sample inputs down to 100 cells.

High Throughput

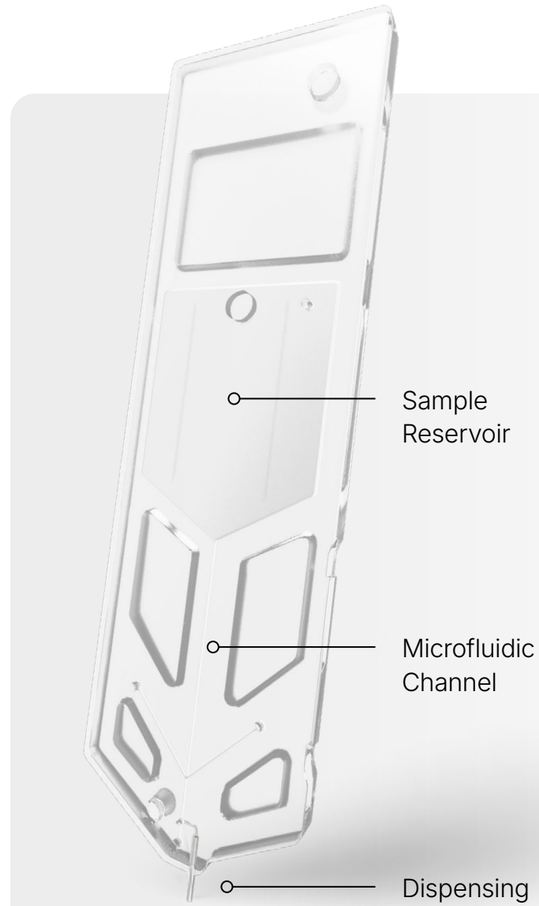
Process more sample types, streamlining single-cell dispensing workflow with no cleaning or re-calibration in between.

No Sample Carryover

Disposable cell cartridge prevents cross-contamination between samples.

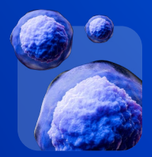
Safe – No Aerosol Formation

1 µL droplet prevents aerosol formation.



Applications

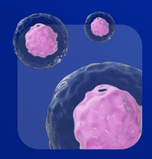
CRISPR and
Cell Engineering



Cell Line
Development

Single Cell
Genomics

Antibody
Discovery



Cell
Therapy

Common Specifications

Dispensing Speed
Process one 96-well plate
in under 2 min

Sorting Pressure
<2 psi

Single Cell Dispensing Volume
1 µL per cell

Dispensing Format
96- or 384-well plate

Initialization Time
5 min

Input Sample Density
1,000 cells/mL - 1M cells/mL

Input Sample Volume
100 – 600 µL

Sheath Consumption
6.5 mL /hr

Specifications

TABLE // 01

Pala Instrument Specifications

Pala Instrument	
Laser 1	488 nm
Laser 2	405 nm or 561 nm
Detection Channels	9 or 11 fluorescent channels plus Forward & Total Scatter
Dimensions	25 x 14 x 9”
Weight	35 lbs

TABLE // 02

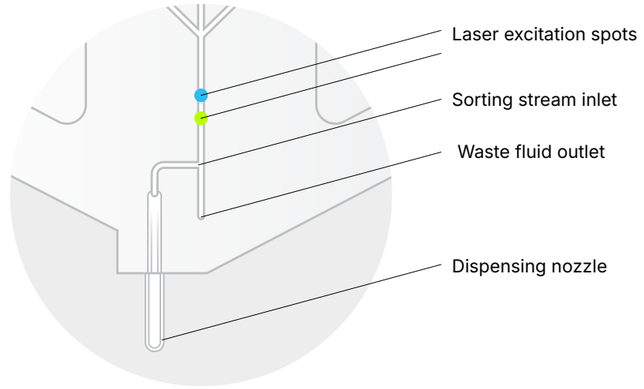
Pala Fluorescence Detection Configuration

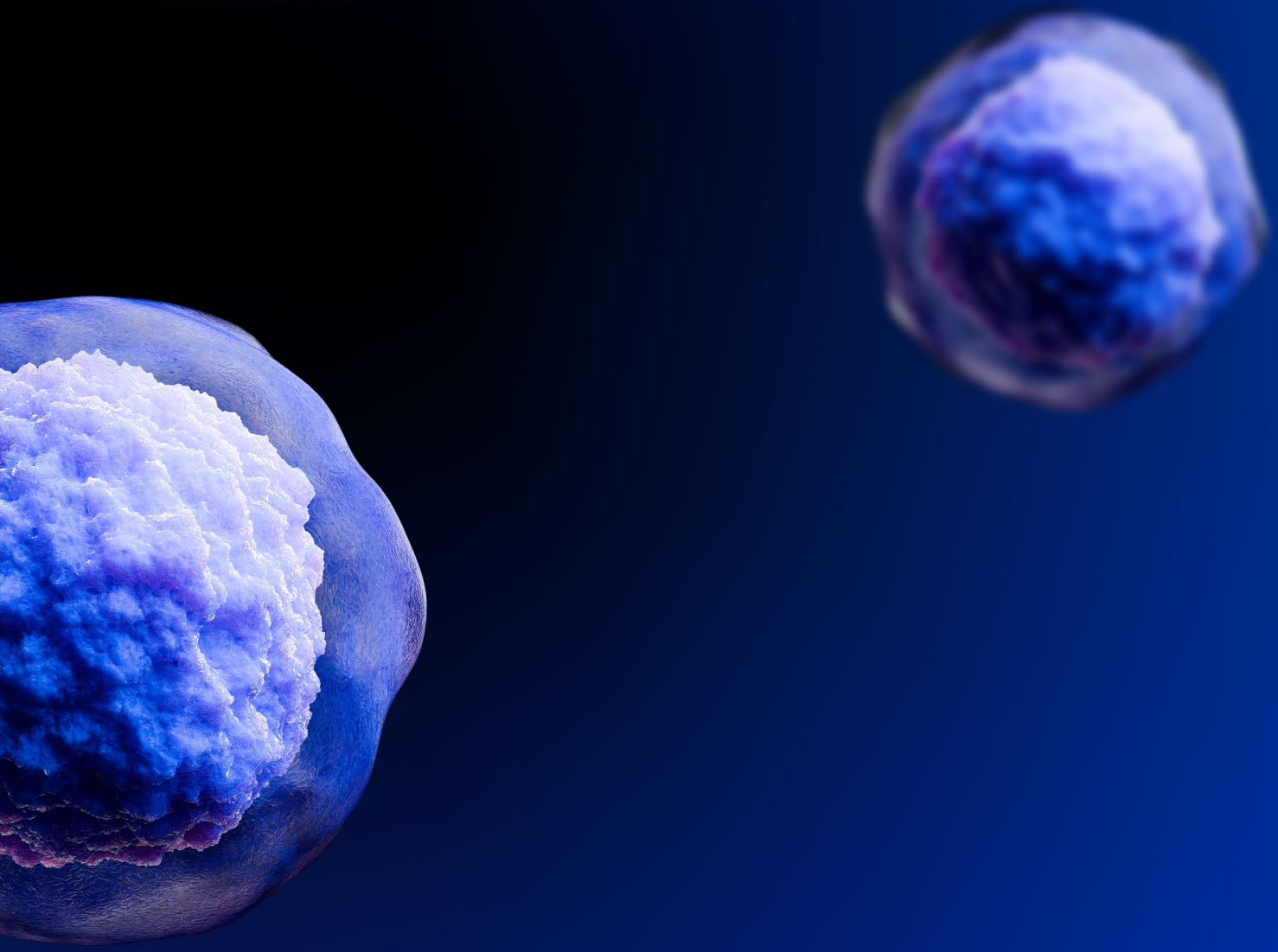
Instrument Configuration NI006		
Filter	**488 nm**	**561 nm**
527/32	FITC	
586/42	Nile Red	PE
625/15	PE-Texas Red	mCherry
692/80	PerCP	PE-Cy5
783/56	488/783	PE-Cy7

Instrument Configuration NI007		
Filter	**488 nm**	**405 nm**
447/45		BFP
527/32	FITC	BV510
586/42	PE	BV570
625/15	PE-Texas Red	BV605
692/80	PerCP	BV650
783/56	PE-Cy7	BV785

FIGURE // 02

Pala Cartridge Schematic





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