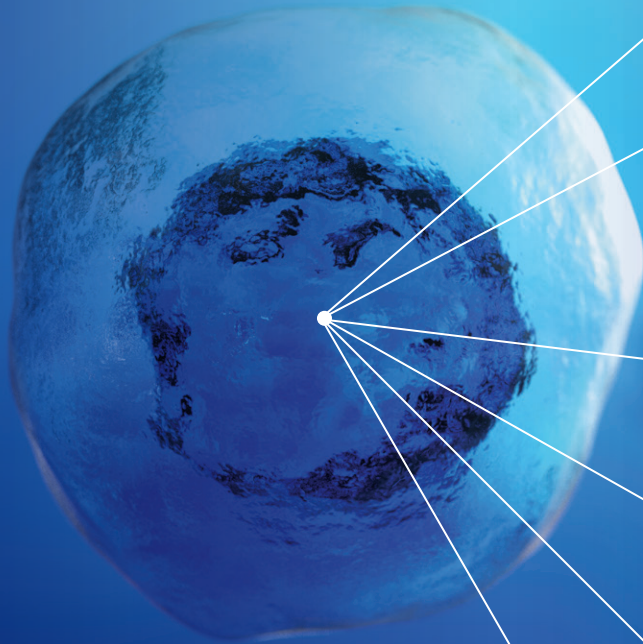


Capture the Dynamics of Your Cells



Pen #	#2167
Exported to Well Plate	A6
Growth Rate	Avg T_D : 26.7 hrs Max T_D : 24.3 hrs
Morphology	Avg Diameter: 12.6 μ m Circularity: 0.83
Fluorescence Intensity Day 0	DAPI: 200 FITC: 15,000 PE: 100 Cy5: 20,000
Fluorescence Intensity Day 4	DAPI: 10,000 FITC: 18,000 PE: 50,000 Cy5: 1,000

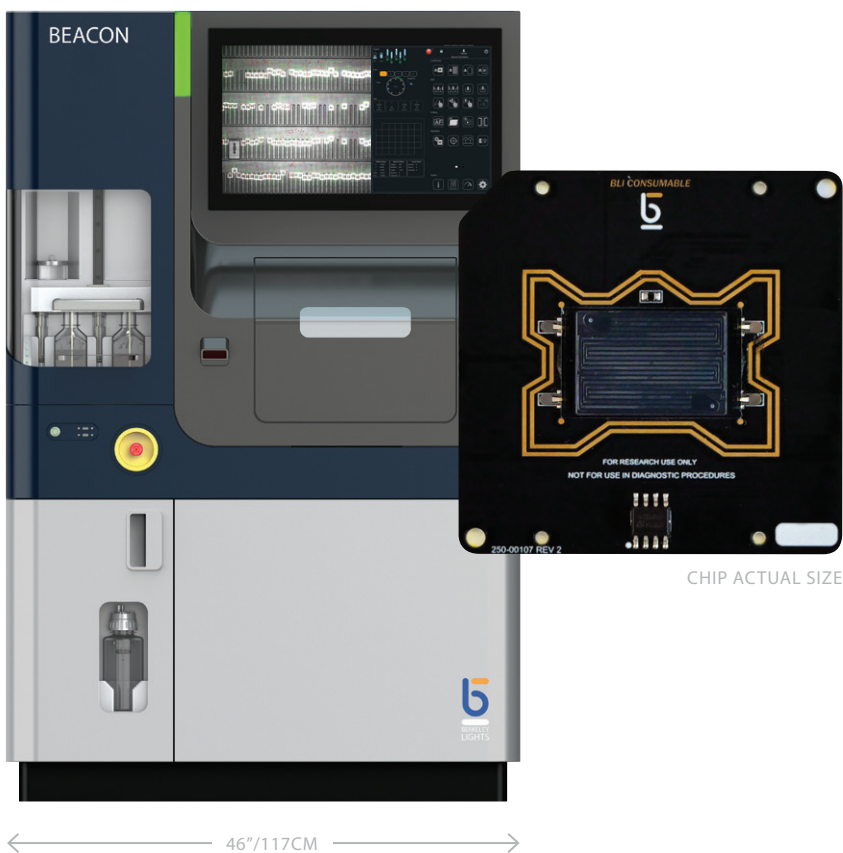


Beacon™
OptoFluidic™ Platform

Reveal the Dynamics of Your Cell Population

Cells are dynamic and ever changing. Identifying the right cells by morphology, phenotype, and genotype is complicated and time consuming. Capturing these changes over multiple time points is challenging.

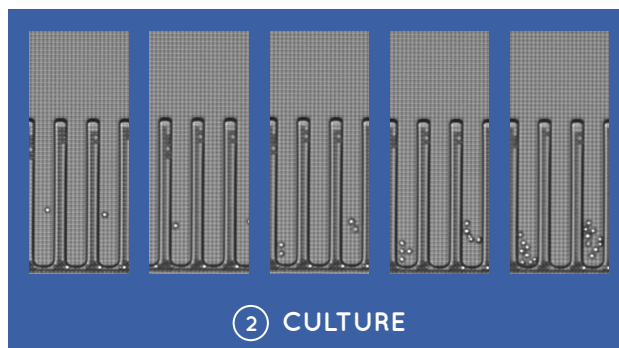
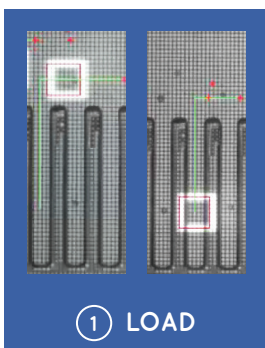
For the first time, screening to find the right cells is easy, precise, and automated. Now you can perform multiple assays across thousands of cells at multiple time points to fully characterize and annotate your cells. Link morphology, phenotype, and genotype to an individual cell or clone. Export only those cells of interest.



The Beacon platform combines a closed nanofluidic environment with a structured-light optical engine that enables unlimited and fully automated assays including:

- Real time IgG Secretion
- Multiple Species Binding
- Growth Rate
- Surface Markers
- Phenotypic Assays
- Live/Dead Assays
- Multiplex Assays
- Affinity Assays
- Multiple Antigen Screening
- Reporter Cell Assays
- Other Functional Assays

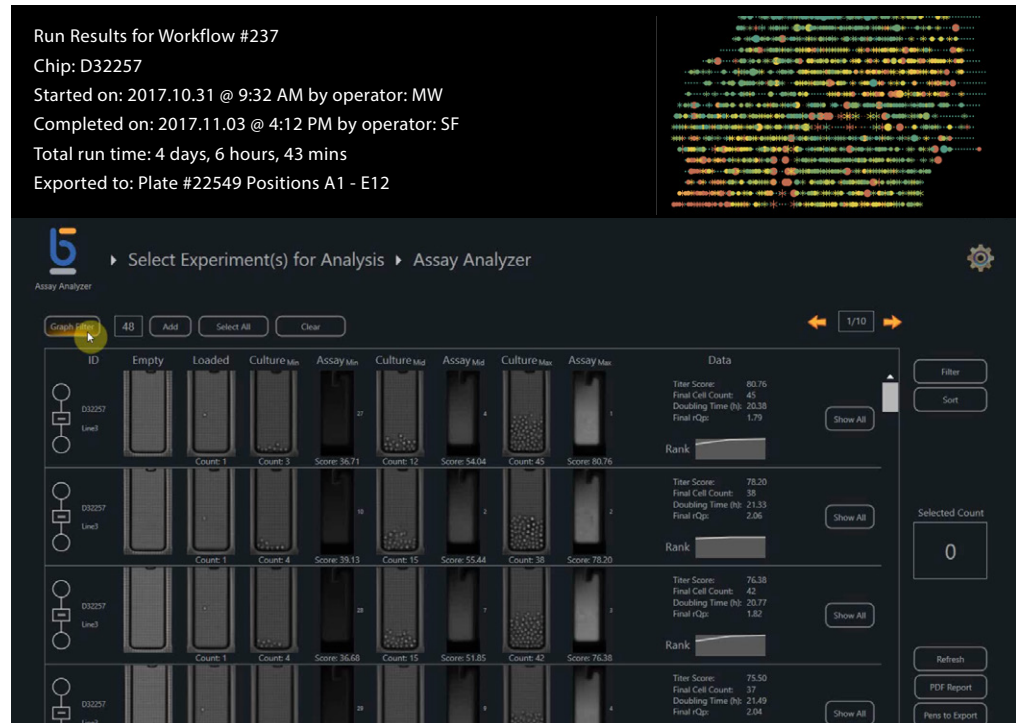
4 Easy Steps to Identification



Characterization through Visualization

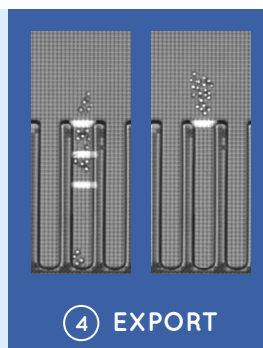
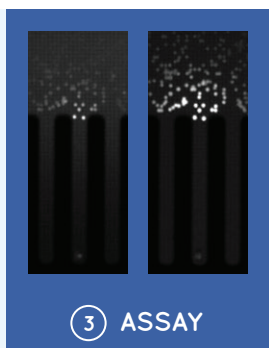
At the heart of the Beacon platform is an epifluorescent microscope that captures bright field and fluorescence images of each NanoPen™ chamber at multiple time points. Whether daily or hourly, you can visualize and capture a record of each cell or clone's growth, phenotype, assay results, and link to genotype.

After comprehensive annotation and characterization, individual cells or clones that meet the user defined specifications are exported into a 96-well plate with a complete visual record.



Flexible Automation

Easily program automated workflows tailored for your specific needs. The touchscreen display, accompanied by instructional videos, walks the user through all the setup steps.



Small is Sensitive

Each NanoPen is ~100,000 times smaller in volume than a microwell. Perform secretion assays with both soluble or membrane-bound targets within hours of cloning rather than weeks. The sensitivity achieved allows many assays to be done at the individual cell level.

Beacon™

OptoFluidic Platform



Platform Specifications

Import	Recommended input density: 1e5 - 5e6 cells/mL Formats: 1.5mL Eppendorf tubes, 0.2mL PCR tubes Std. height (up to 16mm) 96 well microtiter plates
Cloning Workflow	Up to 80 cell lines per week with 2-3 secretion assays
Cell Line Development Workflow	Screen up to 5000 clones for growth rate, IgG titer & relative Qp in < 1 week
Rare Cell Workflow	Surface based sort up to 25,000 cells/hour. Hit rates from >0.02% to <1%
Secretion Based Assays	IgG production measurement for 1 to 32 cells Ag-specific binding assays. Other fluorescent binding assays Typical duration 30 - 60 mins
Fluorescence Capabilities	Up to 5 colors Standard configuration: DAPI: Ex: 370 - 410nm / Em: 429 - 475nm FITC: Ex: 450 - 500nm / Em: 515 - 565nm TxRed: Ex: 542 - 582nm / Em: 604 - 644nm Cy5: Ex: 608 - 648nm / Em: 672 - 712nm
Culture	Customer defined media Per chip temperature control: 10°C to 40°C Up to 2 weeks on-chip growth Real-time monitoring of growth rates
Cell Types	Hybridoma, CHO, primary cells, & many others
Export	Format: 96 well microtiter plate Well plate temp control 10°C to 40°C Typical >99% purity monoclonal export Typical >70% outgrowth after export Typical Single-Cell Paired V _H & V _L recovery >65% Single-cell and multi-cell (clonal) export modes
Working Environment	Temperature: 64-79° F (18-26° C) Humidity: 20-80% Altitude: <6,500 ft (2,000 m)
Sterility	Integrated BSC Class II, A1 compatible airflow Dual ULPA filtration. Exceeds Cleanroom Class 100, ISO Class 5
Recommended Clearance	36 in (91 cm) aisle in front of workstation 3 in (7.6 cm) rear 12 in (30 cm) left & right sides
Gas Supply	CDA: 20-120psi, 6mm push-to-connect fitting* >99% CO2: 20-120psi, 6mm push-to-connect fitting* <i>*Other NPT compatible fitting options available</i>
Other Connections	Ethernet
Computer	Windows 10, i7 processor, 8GB Memory, 2TB RAID1 data drive Data Capacity: 250 experiments or 6-12 months
Power	Dedicated 110 -240 V AC, 50Hz-60Hz, 20A circuit
Dimensions	Width: 46 in/116.8 cm Depth: 34 in/86.4 cm Height: 71.5 in/181.6 cm
Weight	Crated for shipment: 1700 lb/770 kg Free-standing: 1260 lb/571 kg



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