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Cyto-Mine® Platforms

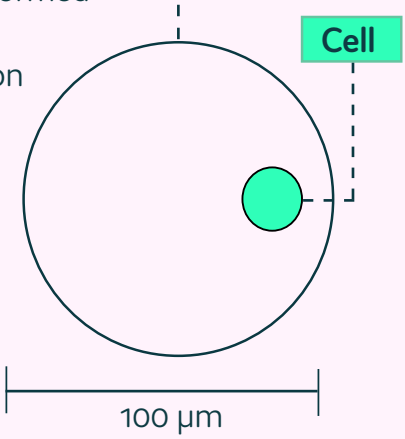


Sphere Bio - A Fluidic Sciences Ltd Brand | **spherebio.com**

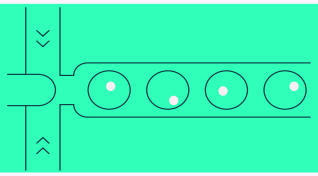
Sphere Bio core technology - Picodroplets

Picodroplet

Tiny droplet of media (picoliters) in oil formed with Sphere Bio's patented emulsion technology.

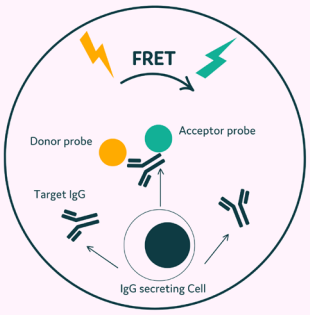


Features	Benefits
Gas permeable	Maintains cell viability
Cell Encapsulation	Analyze secreted proteins & antibodies
Picoliter sized	Allows for rapid detection of signals
Optically clear	Compatible with fluor-based molecular assays
Highly stable	Protects cell through assessment, sorting, and dispensing

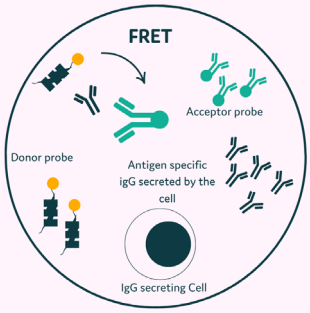


Picodroplets provide an ultra-miniaturized reaction vessel, containing media, reagents and cells, that allows large-scale experiments at the single cell level.

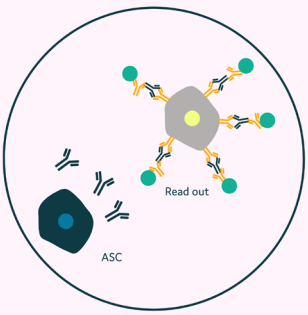
Bioassays in picodroplets



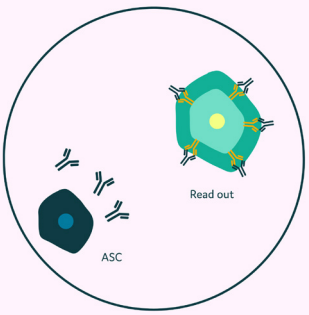
FRET assay: IgG specific



FRET assay: antigen specific



Binding assay: cell binding



Functional assay: fluorescent reporter

Secreted Targets

Surface Targets

A variety of assays can be performed in picodroplets, enabling dramatically reduced incubation times and throughput of 10s of millions of cells.

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Automated screening of live single cells with Cyto-Mine® and Cyto-Mine® Chroma

Picodroplet technology for biologists, not microfluidics experts.



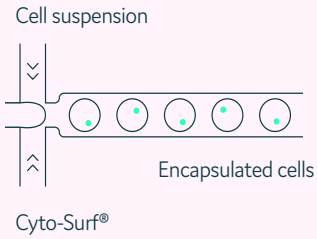


- ✓ **High Throughput** - Functionally analyze hundreds of thousands to millions of cells in a single day.
- ✓ **Enhanced Detection** - Ability to detect secreted cellular products.
- ✓ **Easy to Use** - Easy to use controls allow quick setup and execution.
- ✓ **Automated Design** - Automatically encapsulates, analyzes, sorts, and dispenses single viable cells.
- ✓ **Multiplexing Capablities with Cyto-Mine Chroma®** - Up to four lasers and detectors allow for multiple fluor based readouts.

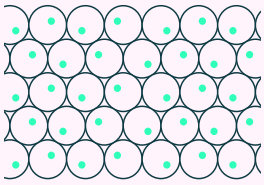
Integrated Workflow

A fully integrated workflow for encapsulating single cells, sorting them by fluorescent markers, and dispensing with monoclonality assurance and industry-leading cell viability.

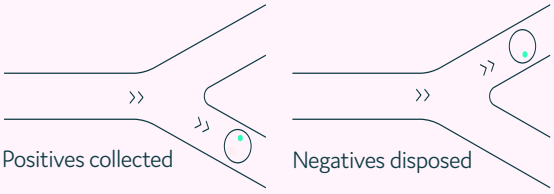
1 **Cells encapsulated in picodroplets**



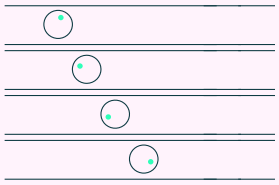
2 **Cells incubated with assay reagents while flourescent signal develops.**



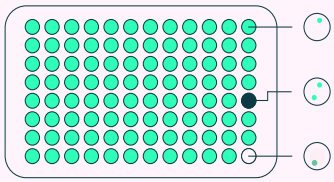
3 **Cells of interest sorted for downstream dispensing**



4 **Imaging prior to dispense confirms single cell per picodroplet**



5 **Cells gently dispensed into 24, 96 or 384 well microplates**



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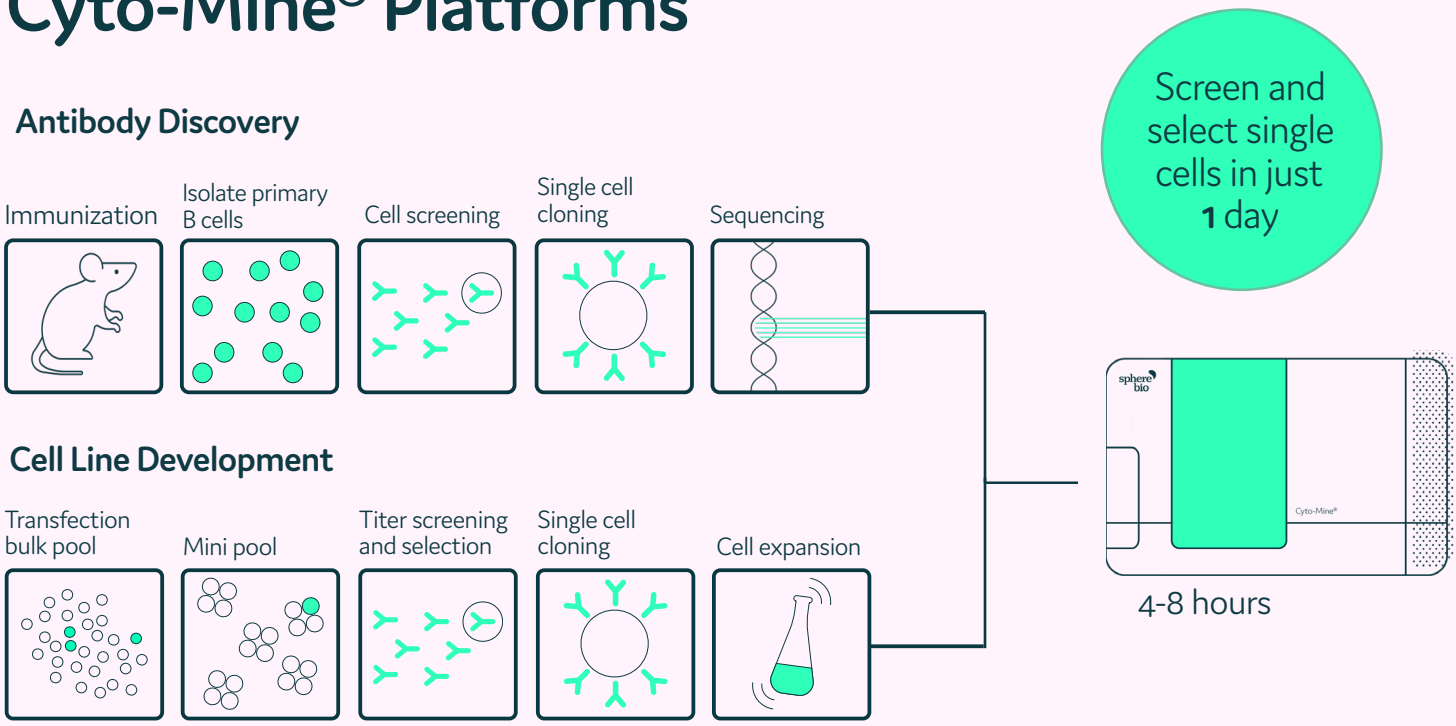
Reduce months of work to days with Cyto-Mine® Platforms



Combining the advantages of picodroplets with advanced automation, Cyto-Mine® platforms enable screens to be performed in **1 day rather** than **2 months.**

Explore antibody discovery app notes

Explore cell line development app notes

Learn more about our products

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Cyto-Mine® and Cyto-Mine® Chroma: CLASS 1 LASER Product – BS EN / IEC 60825-1:2014

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