

HIGH-THROUGHPUT SCREENING PLATFORM



Fully integrated platform
for fluorescence-activated
droplet sorting (FADS)





PLATFORM INFORMATION

STYX is a complete solution for any lab looking to perform high-throughput screening. The platform seamlessly integrates multicolor fluorescence analysis, pressure pumps, and easy-to-use software into an elegant and compact design to

bring you the most robust and advanced fluorescence-activated droplet sorting (FADS) device on the market. STYX also enables advanced droplet microfluidics workflows, including selective reagent addition.



KEY FEATURES

4 individual lasers (405/488/561/637)

4 independent fluorescence detection channels

Dual high-speed microscopy setup for comprehensive process monitoring

Multiparametric sorting capabilities

No chip lock-in (compatible with various PDMS chip designs)

Integrated high-voltage pulse generator

Embedded UI software

Small footprint & mobility

MULTIPARAMETRIC SORTING

4 FLUORESCENCE CHANNELS

Sorting based on selected, multiple, or all 4 available colors (blue, green, yellow, red)

SIGNAL DURATION

Sorting based on the duration of fluorescence signal

MEAN/PEAK

Sorting based on mean or peak fluorescence values for each detection channel

INNOVATOR FEATURES*

3-way droplet sorting, double peak detection and other custom capabilities

*available upon request, with pricing based on project complexity



ADVANCED UI

POLYGONAL GATES

Precise selection of specific fluorescent populations, offering greater accuracy and flexibility than rectangular gates

SUBGATING

Refined population selection by applying additional gates for more precise analysis of targeted fluorescent subsets

SORTING VERIFICATION

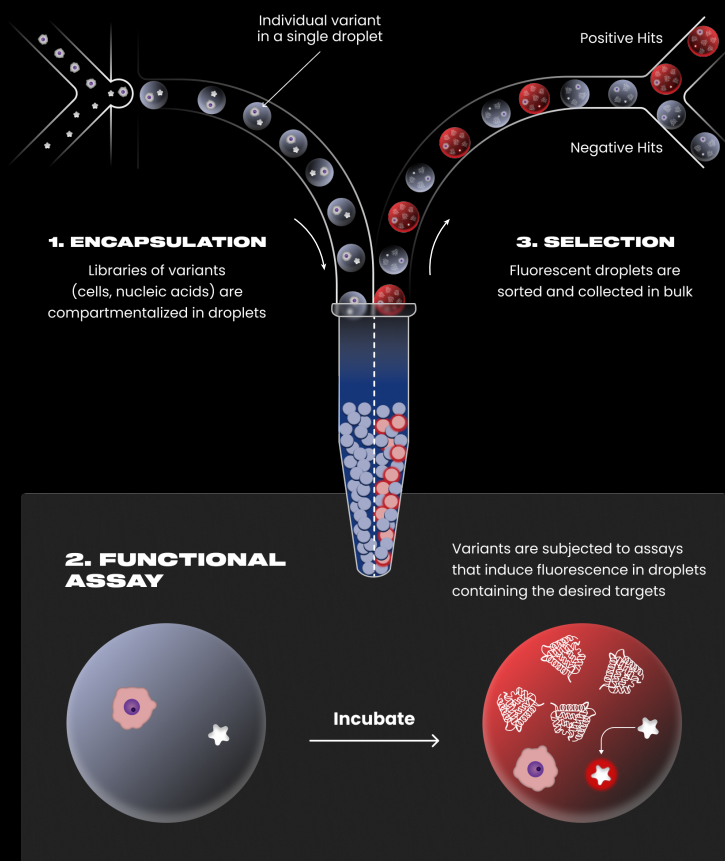
Image capture of droplets passing sorting criteria, displayed in a collage for content and selection verification

COMPENSATION MATRIX

Bleedthrough correction for accurate fluorescence signal interpretation

APPLICATIONS

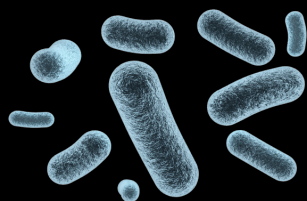
HIGH-THROUGHPUT SCREENING



Droplet microfluidics has revolutionized HTS by enabling the generation and sorting of droplets at ultra-high-throughput rates (thousands per second).

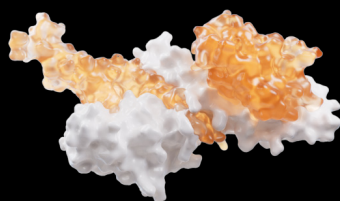
This allows millions of assays to be run in parallel, completing the process in just a few hours.

Droplet microfluidics enables screening through functional assays, focusing on target activity in its biological context, rather than just binding affinity.



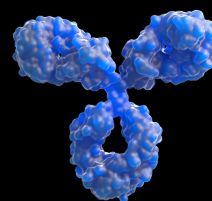
STRAIN ENGINEERING

Rapidly screen microbial strains to identify variants with enhanced traits



PROTEIN ENGINEERING

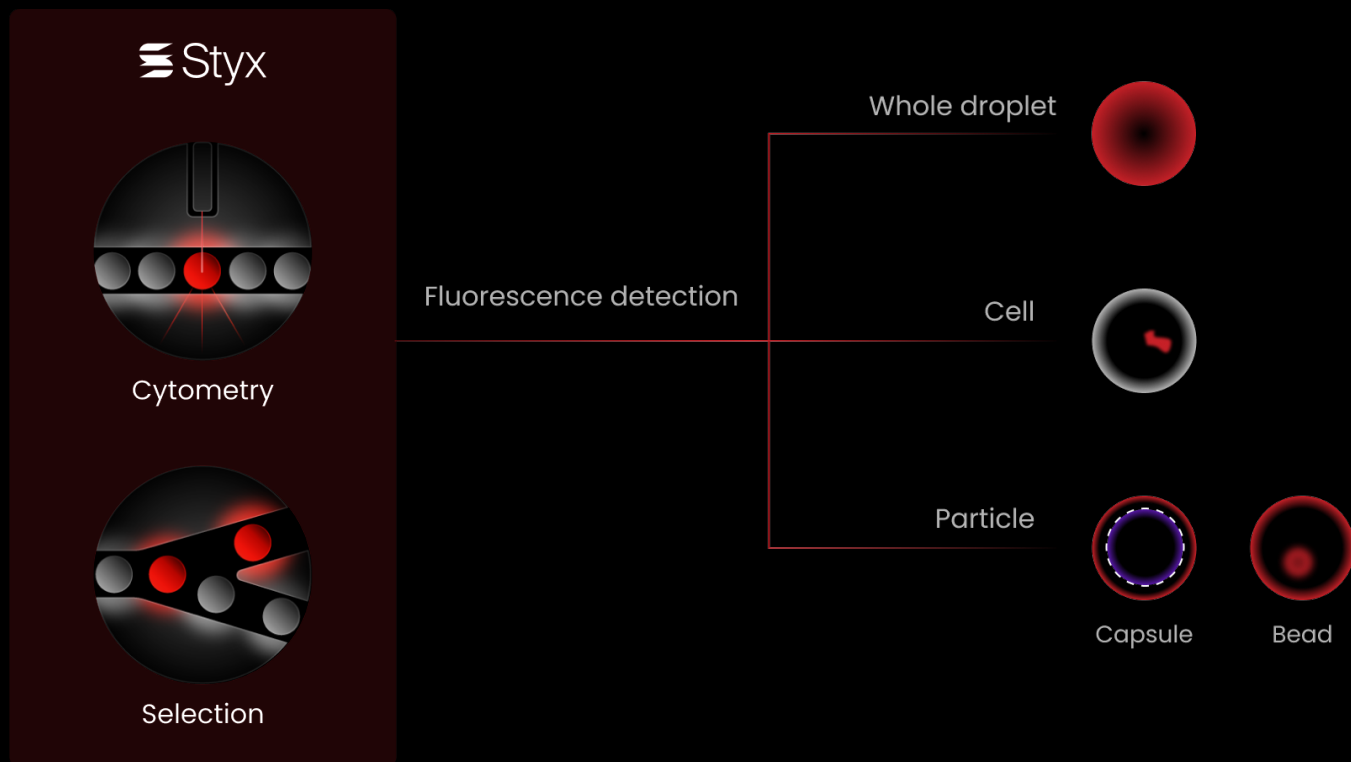
Screen large protein libraries to accelerate the identification of proteins with desired traits



ANTIBODY DISCOVERY

Screen large antibody libraries to identify candidates with improved functional traits

CUSTOM SCREENING WORKFLOWS

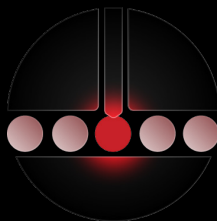


1. DETECTION & SELECTION

STYX can detect and select droplets based on fluorescence signal from diverse samples, including Atrandi's semi-permeable capsules.

2. SELECTIVE REAGENT ADDITION

STYX enables targeted reagent addition to fluorescent droplets only



INJECTION

Used to introduce homogenous solutions (reagents, substrates)

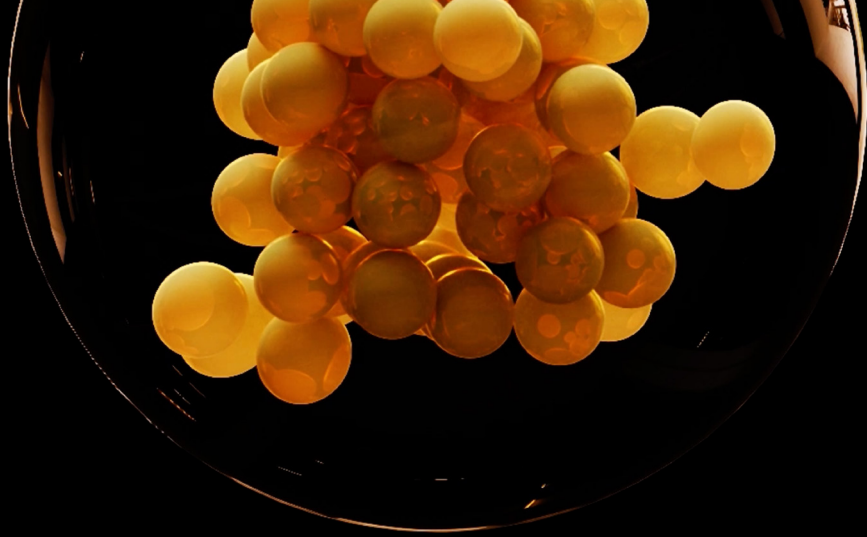


MERGING

Used to introduce distinct objects (cells, beads, particles)

3. CUSTOM MODULES

No chip lock-in provides the ability to run any microfluidic design and customize screening workflow to your needs



ATRANDI BIOSCIENCES

ATRANDI

"You discover" – in Lithuanian

ABOUT COMPANY

Atrandi Biosciences, founded in 2016, is a pioneering life sciences tool company transforming single-cell analysis. Headquartered in Vilnius, Lithuania, we simplify single-cell research by creating versatile and scalable tools that empower labs around the globe. Our mission is to

remove barriers, expand possibilities, and enable researchers to address the world's most intricate biological questions. We believe the greatest scientific breakthroughs should be accessible to everyone, fostering a future where discovery knows no limits.

200+

Satisfied
customers

>150

Install base

20+

Collaborations
worldwide

70+

People in the
team

**ISO 9001
ISO 14001**

Certified

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