

## Molecular diagnostics development

## Innovating together: Atrandi Biosciences advancing single-cell analysis with the help of custom OEM solutions

### Company

Atrandi Biosciences (Atrandi), a Lithuanian-based biotech company renowned for its pioneering work in microfluidics, stands at the forefront of single-cell analysis innovation. Dedicated to the delivery of innovative instrumentation and sequencing library preparation kits, Atrandi is making significant strides in the field, providing researchers with advanced tools to uncover new biological insights.

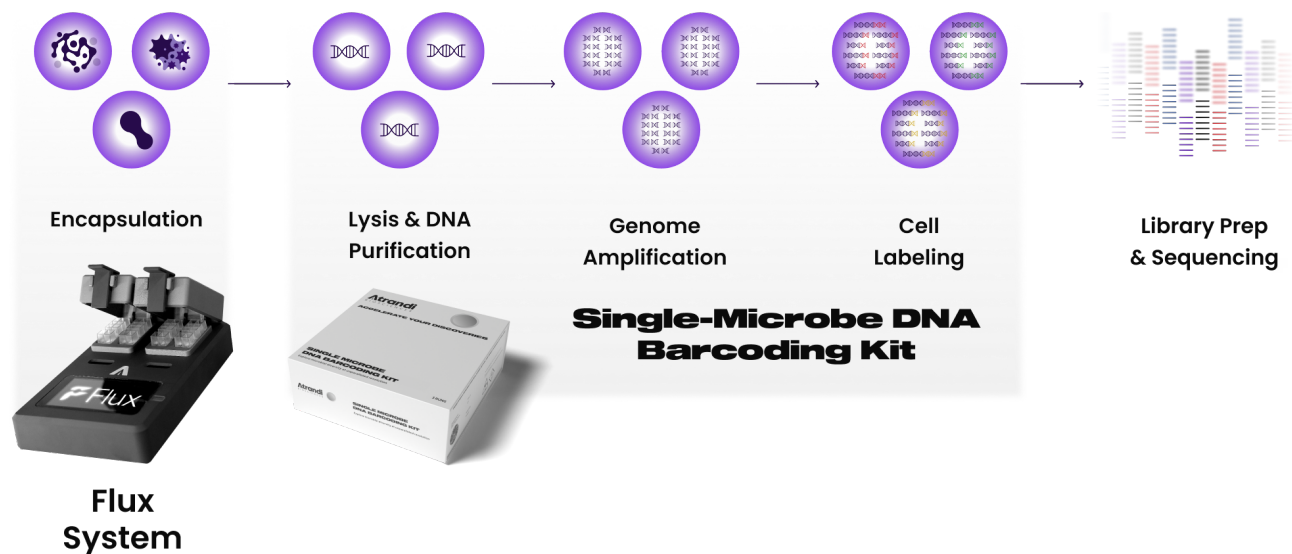
### Background

Atrandi has developed several key products, such as the ONYX microfluidic platform, the STYX high-throughput droplet screening platform. The most recent launch is the Semi-Permeable Capsules (SPCs) technology, which is supported by the FLUX instrument—capsule generator and the Single Microbe DNA Barcoding Kit.

Semi-Permeable Capsules (SPCs) are a breakthrough technology transforming microfluidics-based multi-step workflows. SPCs use a hydrogel shell and an aqueous core to compartmentalize large biomolecules and single cells while allowing small reaction components to pass through. They are stable under various reaction conditions and suitable for downstream reactions.

One of the latest innovations from Atrandi, the Single Microbe DNA Barcoding Kit, leverages SPCs to deliver unprecedented throughput, accuracy, and cost savings in single-cell analysis. The kit is designed to uniquely label up to 10,000 microbial single amplified genomes (SAGs) per experiment. The process begins by encapsulating individual microbial cells into semi-permeable capsules (SPCs) and seamlessly continues with lysis, genome amplification, and cell labeling. Barcoded SAGs are then prepared for sequencing using commercially available NGS library preparation kits.

Single-cell DNA sequencing transforms microbiology by enabling the precise analysis of individual microbes in complex communities like the gut microbiome. It uncovers hidden species, reveals microbial interactions, and identifies antimicrobial resistance genes, providing insights into pathogen dynamics and informing targeted treatments for infectious diseases.



**Figure 1. Atrandi Biosciences developed Single-Microbe DNA sequencing workflow.**  
(Source: atrandi.com/products/kits/single-microbe-barcoding)

### Challenges

To successfully develop and launch this groundbreaking solution, Atrandi Biosciences were looking to partner with reliable suppliers that could deliver high-quality components tailored to their specific needs. They also used the value of involving suppliers early on – during research and development – to avoid costly changes or delays down the road.

Identifying partners with the necessary flexibility and range of solutions had proven to be a significant challenge, particularly in a market with limited reliable OEM suppliers. This was especially difficult as for start-up aligning with commercial suppliers on all necessary details requiring a substantial investment of time and a different level of collaboration.

### Solutions

Atrandi successfully found the reliability and support they were seeking through Thermo Fisher Scientific's OEM solutions, among other partners. After reaching out to Thermo Fisher, they were promptly assigned a dedicated point of contact (BDM, Business Development Manager) within their OEM team, which streamlined communication, helped navigate options, and ensured that optimal solutions were identified efficiently.

As one of the primary suppliers for the Single Microbe DNA Barcoding Kit, Thermo Fisher provided trusted components crucial for the product's success, from R&D to commercialization. Through this partnership, Atrandi not only gained access to a broad portfolio of components, but also to seamless customization, commercial licensing rights, customized labeling and packaging, and a secure supply chain.

### Results

Partnering with Thermo Fisher enabled a rapid launch of the Single Microbe DNA Barcoding Kit, with the entire process—from initial outreach to receiving components and assembling the first kits—completed within 4-5 months. This collaboration significantly reduced timelines and allowed for an earlier-than-expected product release.

Thermo Fisher's commitment to excellence further ensured the ongoing quality and reliability of the kits. The assurance of high-quality standards from a trusted partner provided confidence that the final product would meet state-of-the-art quality benchmarks.

### Summary

Leveraging the extensive product range, flexibility, and support offered by Thermo Fisher's OEM solutions at every stage of development enabled efficient product launches and scalable solutions. Even as a large company, Thermo Fisher demonstrates a strong commitment to supporting smaller, growing businesses, adapting to their needs and providing exceptional service regardless of their size.

Atrandi's success showcases how Thermo Fisher OEM solutions help companies push the boundaries of science, advancing fields like single-cell analysis. With Thermo Fisher, businesses large and small receive long-term collaboration that drives world-changing innovations.

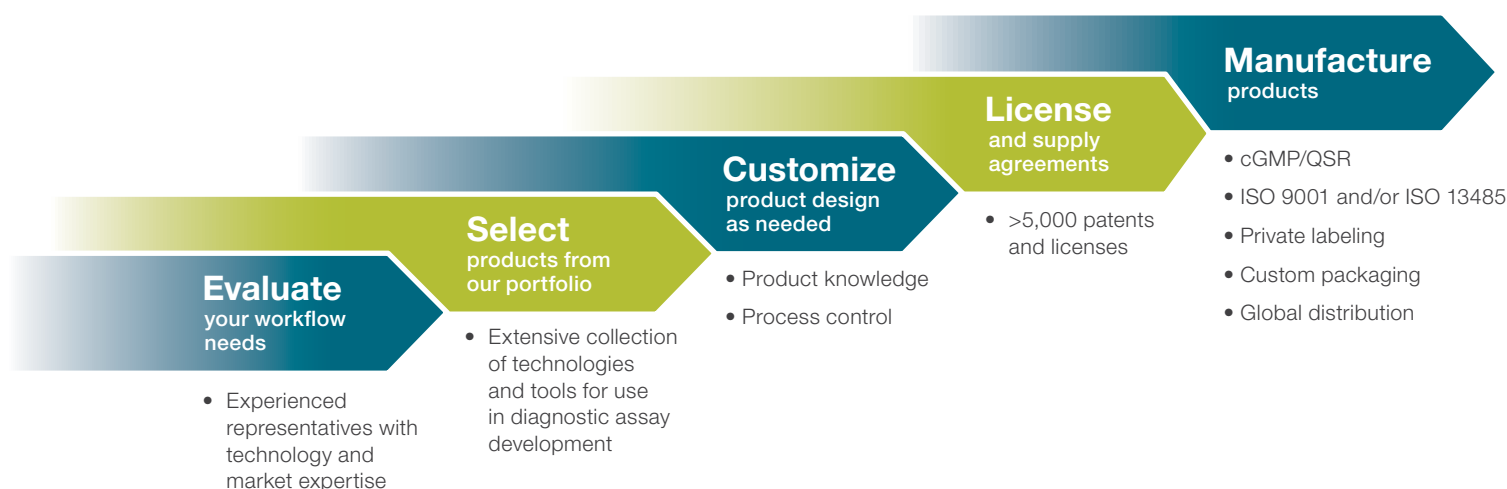
Connect with Atrandi Biosciences to learn more about groundbreaking single-cell analysis innovations at [atrandi.com](https://atrandi.com).

# OEM and Commercial Supply

## The right partner can make all the difference

Developing and commercializing new products can be difficult and time-consuming. Our Original Equipment Manufacturer (OEM) and Custom Commercial Supply

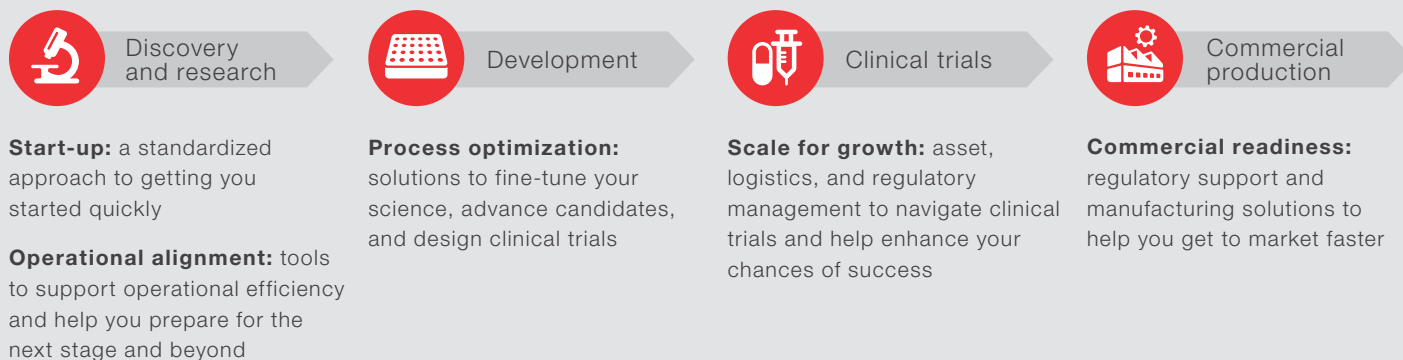
solutions are here to help accelerate your work and bring your innovations to market faster, easier, and with peace of mind.



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