

Closed-Loop Cell Therapy Manufacturing



Client

Venture studio portfolio company

Practice Areas

TechBio & Life Sciences

Core Disciplines

Molecular & Cell Biology

Systems Engineering

Applied Physics

Microfluidics

Challenge

Current cell therapy manufacturing processes rely on technologies that introduce risk at every step as cells are transferred between functional modules within complex, high-cost workflows. These fragmented processes resist automation, increase variability, add contamination risk, and limit patient access to potentially life-saving therapies.

Triple Ring invented a closed-loop approach that reduces complexity, lowers cost, and shortens time to dose while maintaining safety, efficacy, and product quality.

Solution

Triple Ring developed enabling technologies designed to streamline and modernize cell therapy manufacturing through an integrated closed-loop architecture.

The solution combined several novel technologies:

- A microfluidic-based end-to-end manufacturing platform
- Modular high-throughput cell selection technology
- Advanced non-viral gene transfer technologies
- Modular subsystem capable of operating independently or within an integrated, closed-loop workflow

Find more case studies on our website:

