



ACCELERATING THERAPIES
FROM START TO SCALE

Meet MiniPRO™

Your New Control Center for Cell Therapy Process Development



Driven By Vertical-Wheel® Technology

Vertical-Wheel® Technology delivers performance, precision, and scalability across our family of bioreactors.



Precision Control. Parallel Power. Proven Performance.

miniPRO

MiniPRO brings full automation and control to early-stage cell therapy development. Incorporating real-time oxygen and pH monitoring, perfusion media exchange, and closed-system operation, MiniPRO enables you to run up to 24 independent or synchronized cultures with consistent mixing, low shear, and closed-system reliability.

Designed as a true scale-down model on PBS Biotech's proven Vertical-Wheel® technology platform, MiniPRO mirrors the fluid dynamics and performance of PBS Biotech's GMP-scale bioreactors—the PBS-3, PBS-15, and PBS-80—ensuring seamless process transfer and predictable outcomes.

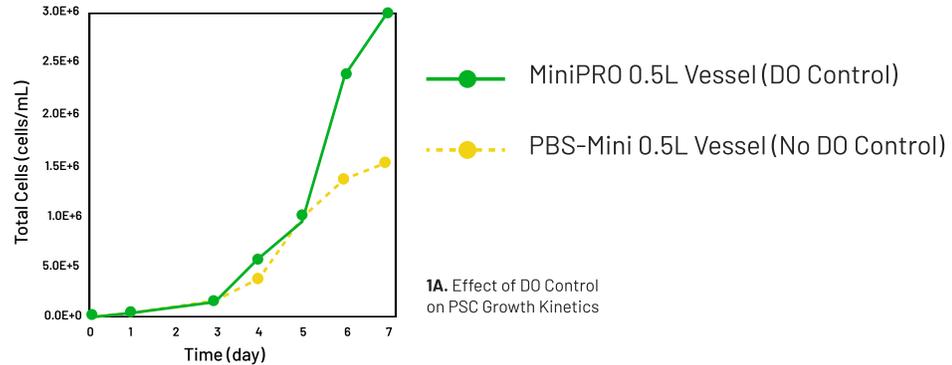
With integrated sensors, centralized oversight, and closed-system operation, MiniPRO accelerates development while preserving sterility and reducing variability, giving developers the confidence to scale with success.

When the cell is the therapy, MiniPRO is the only place to start



Higher Yield, Lower Cost

MiniPRO delivers more cells at lower cost by enabling precise dissolved oxygen (DO) control, overcoming the gas exchange limitations of incubation-based cultures. As shown in **Figure 1A**, MiniPRO doubled PSC yield compared to the original PBS-Mini 0.5L vessel by extending the growth phase with DO control.



→ Produce twice the volume of high-quality cells per batch—reduce media use and production runs

Full Automation at Mini Scale

MiniPRO delivers the automation and control systems found in our large scale bioreactors but at a development scale. It provides accurate, real-time pH monitoring aligned with compendial methods and built-in gassing to eliminate reliance on passive incubation.

→ Accelerate iterative testing and scale-up with confidence with precise, small scale control

Closed-System Operation

MiniPRO supports closed sampling, supplementation, and perfusion-based medium exchange—preserving sterility while providing precise input control. This closed architecture reduces contamination risk and operator variability while increasing process reliability.

→ Faster results with lower risk—safeguard sterility, reduce variability, and gain flexibility

Seamless Path to Scale

MiniPRO is a true scale-down model built on the same Vertical-Wheel® platform as our production-scale bioreactors, ensuring processes optimized at small scale transfer seamlessly with predictable performance.

→ Accelerate scale-up to 80 liters on one GMP-ready platform throughout your development process

Purpose-Built for Cell Therapy

MiniPRO is engineered to meet the unique needs of therapeutic cells, such as maintaining aggregate homogeneity for PSCs. Superior aggregate quality and homogeneity is vital for downstream differentiation results and ultimately, the success of your process.

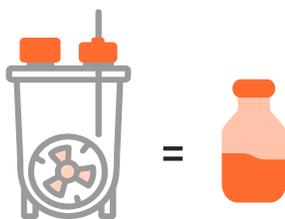
→ The only bioreactor platform proven to preserve cell phenotype, potency, and viability from process development through GMP manufacturing

Ideal for all shear-sensitive cell therapies:

- ✓ Closed, GMP-compatible workflows
- ✓ Parallel culture optimization (up to 24 vessels)
- ✓ Process development and tech transfer
- ✓ Rapid, reproducible small-scale development

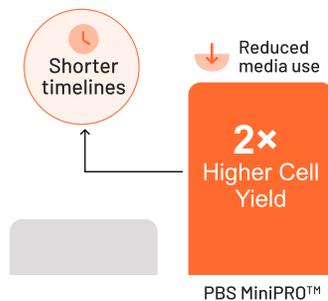


Full-Scale Performance in Mini Runs



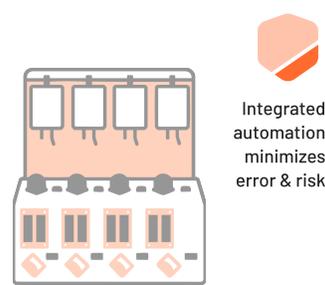
Automation & control of a full-scale system in a mini format

Higher Yields, Fewer Runs



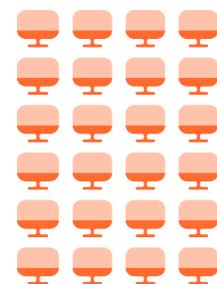
Produces up to **2x higher yield** per batch

Reliable & Reproducible



Consistent, **high-quality results**

Parallel Power



Advanced monitoring & parallel control of up to 24 Vessels

Redefines **small-scale bioprocessing**

Features	Details
 Gentle, Low-Shear Environment	Vertical-Wheel® technology enables gentle, homogeneous mixing that preserves cell viability and function for sensitive cell therapy cultures.
 Parallel Operation	Automate up to 24 (0.5L) single-use vessels (6 housing units x 4 vessels each). Ideal for high throughput DOEs, media screening, and scale-up optimization.
 Comprehensive Bioprocess Control	Precise in-line monitoring of agitation, temperature, pH, and gas flow drives up to 2X higher cell yields compared to standard PBS Mini systems.
 Flexible Vessel Design	Configurable port options enable compatibility with a wide range of process workflows including perfusion medium exchange and other advanced applications.
 Streamlined Workflow	Intuitive user interface, recipe building, and remote culture monitoring for seamless operation.
 Perfusion Capable	Integrated closed-system design supports perfusion media exchange to maintain optimal culture conditions, extend growth cycles, and maximize viable cell yield without aggregate settlement.
 Built for the Future of Bioprocessing	MiniPRO delivers unmatched flexibility, automation, and scalability in a compact, user-friendly platform. Empower your cell therapy development with the next generation of parallel bioprocessing from PBS Biotech.





BIOREACTOR COMPANY
OF THE YEAR 2025

Awarded By
Life Sciences
Review

NPS
Score **50**
Best In Class Service Score



Contact Us to Learn More

Address 4721 Calle Carga, Camarillo, CA 93012
Phone +1 805 482-7272
Email sales@pbsbiotech.com
Website pbsbiotech.com



For more information or to pre-order contact us at sales@pbsbiotech.com.
Our team is ready to support your cell therapy development and scaling needs.