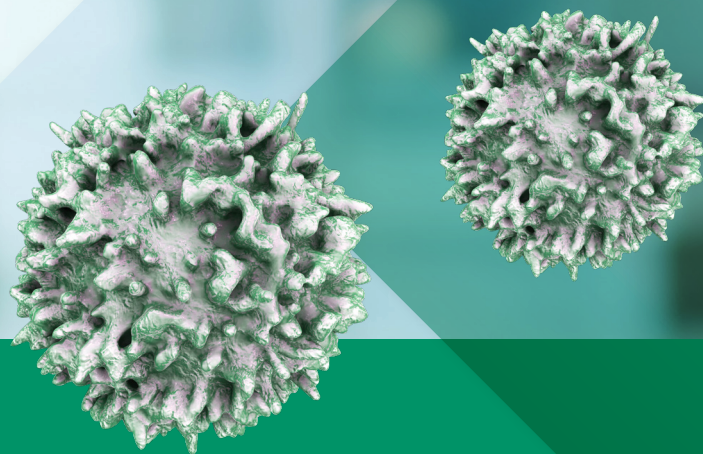


Quantum Flex™ Cell Expansion System

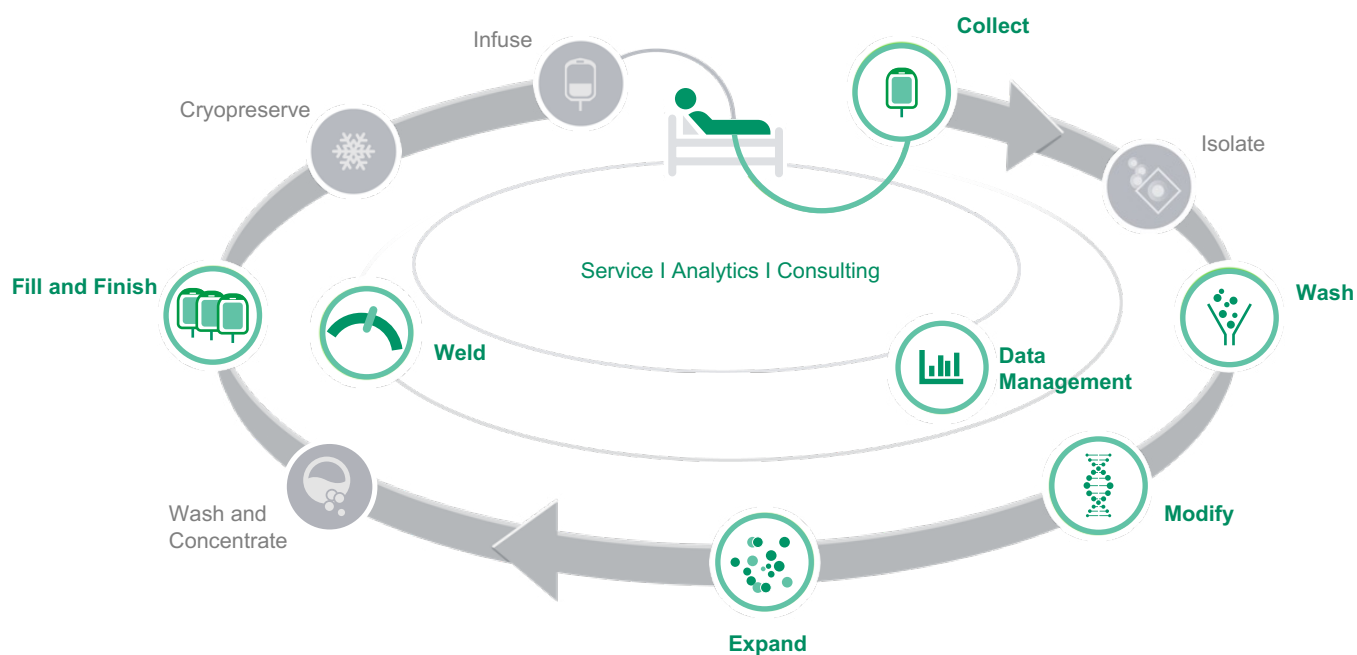
Where cells thrive

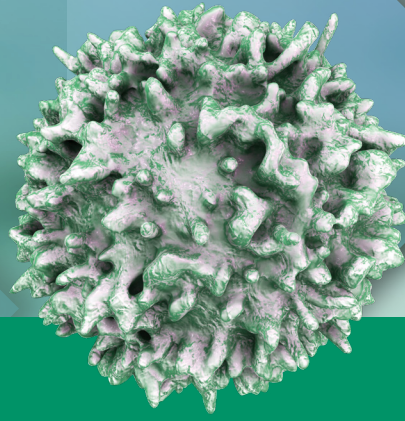




Elevate your process: that's the treatment your therapy deserves

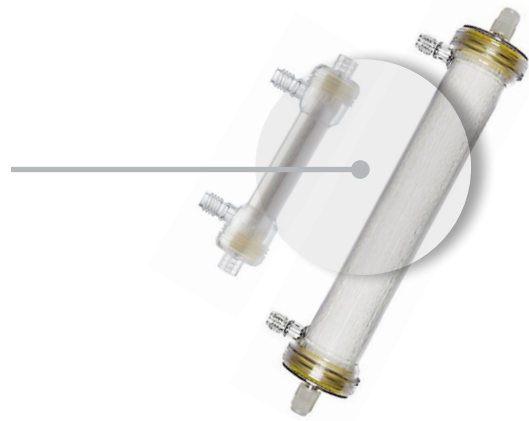
Terumo Blood and Cell Technologies is with you at the most critical points of cell therapy manufacturing, from collection to expansion to final formulation.



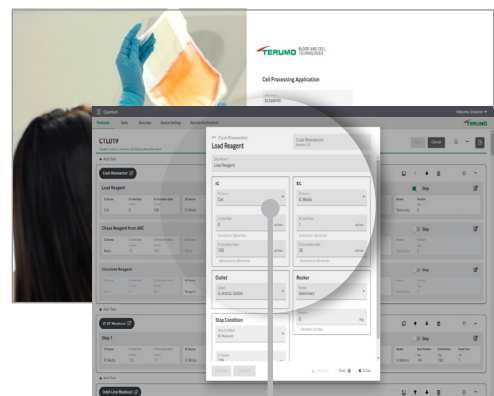
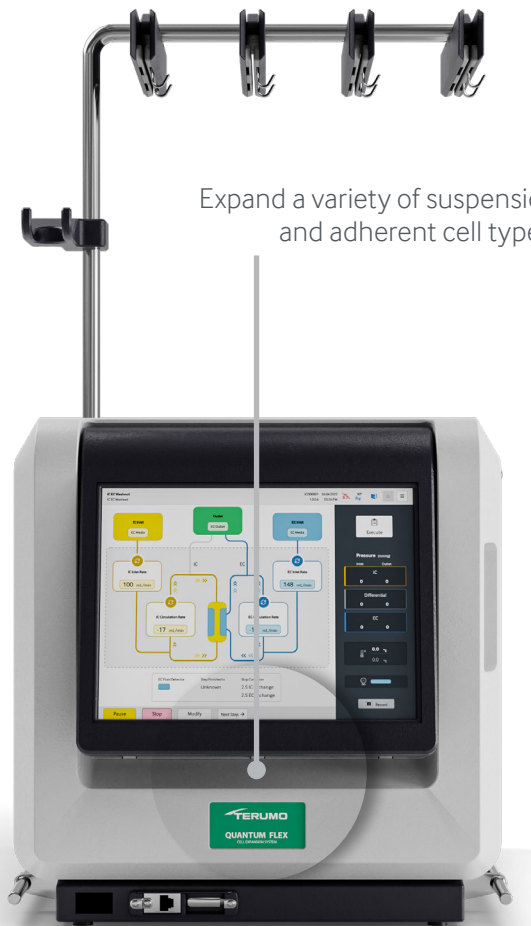


As part of the continuum, we offer the automated, functionally closed Quantum Flex Cell Expansion System. **Using this flexible platform:**

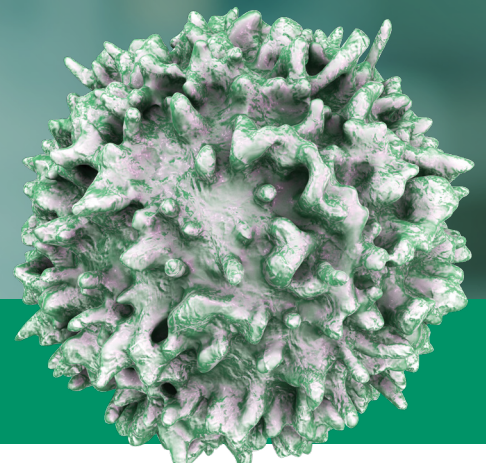
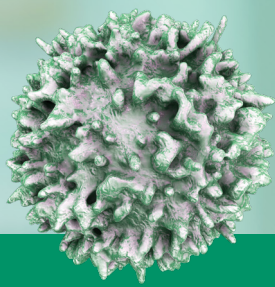
Enable scalable, perfusion-based cell culture with multiple sizes of hollow-fiber bioreactors.



Expand a variety of suspension and adherent cell types.



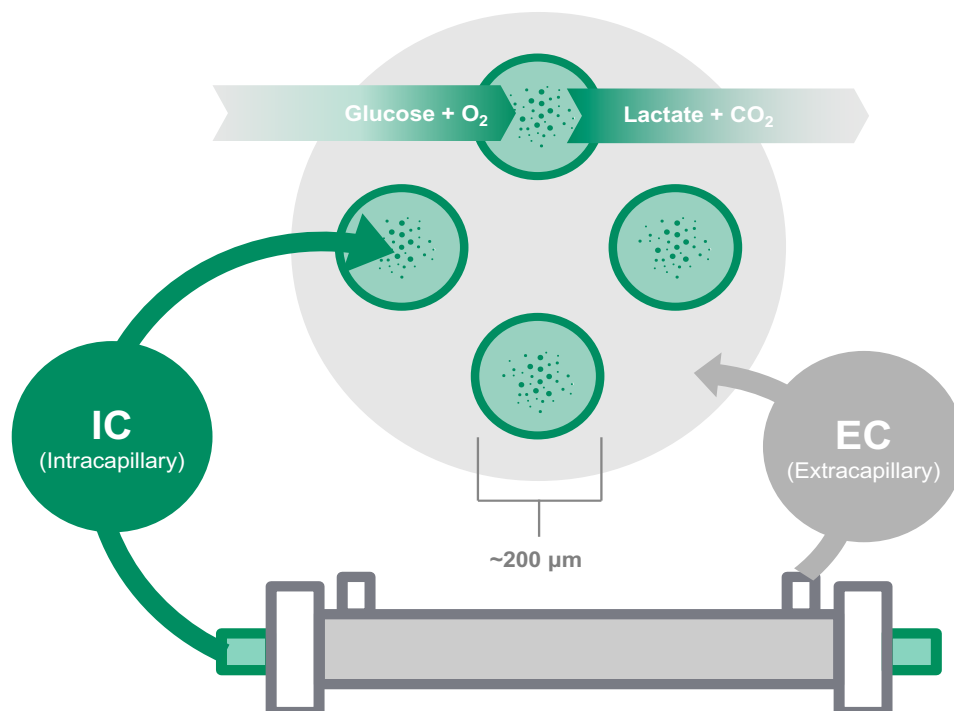
See the benefits of robust software that facilitates fleet and device management and GMP compliance.

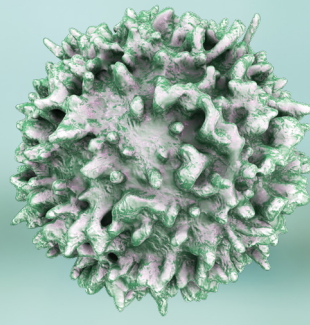


Simplify and de-risk your process, and scale with ease

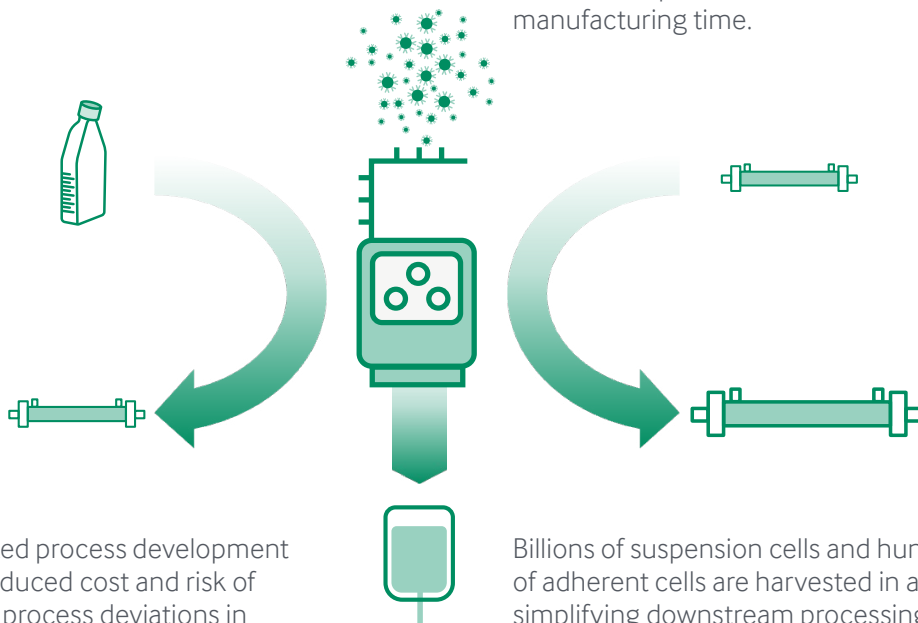
The Quantum Flex platform is a robust environment for both suspension and adherent cell culture:

- Ready access to fresh media, waste removal, and gas exchange over micrometer distances
- Precisely controlled, low-shear expansion
- Reduced usage of valuable reagents





Low seeding requirements can provide reductions in cost, labor, open events and, sometimes, even overall manufacturing time.



Scalability between the small and standard bioreactors provides the same hollow-fiber perfusion technology to transition between batch sizes, potentially reducing the need for bridging studies.

Early, automated process development may lead to reduced cost and risk of unanticipated process deviations in later phases of clinical trial.

Billions of suspension cells and hundreds of millions of adherent cells are harvested in a volume of < 1 L, simplifying downstream processing.



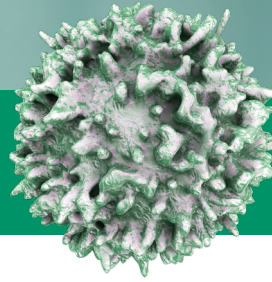


Achieve the
environment
your cell
culture needs

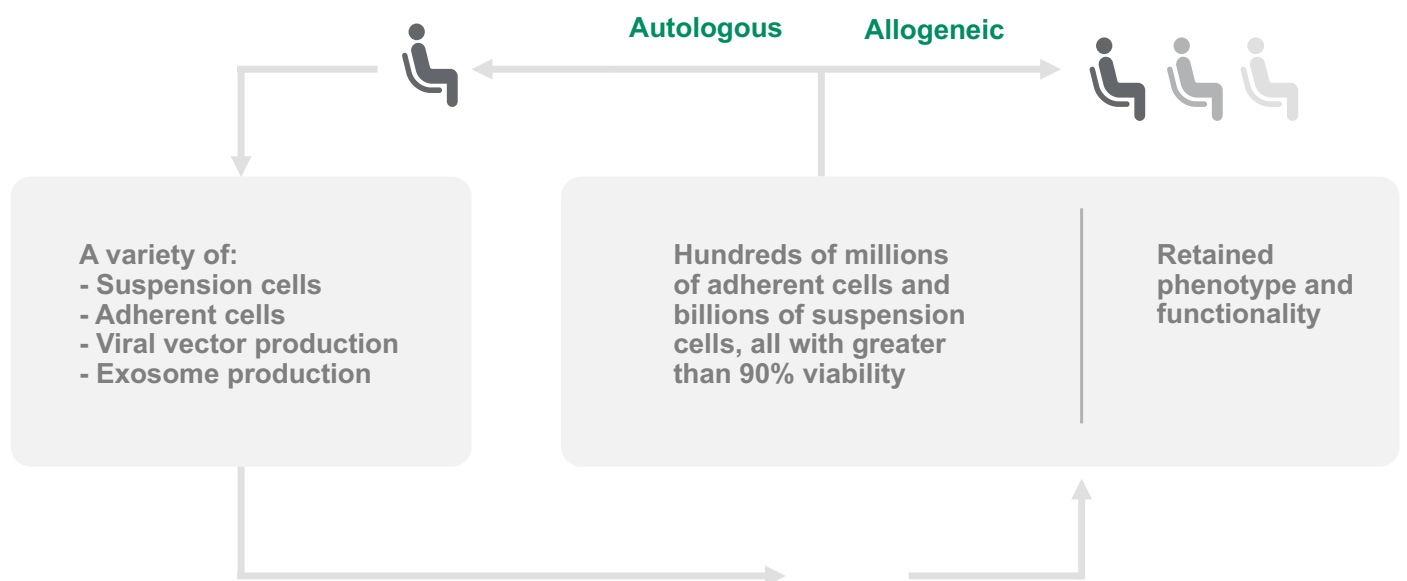


Flox
Small

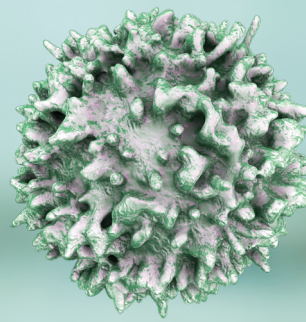
QUANTUM
Cell Inlet Bag
0.5 L



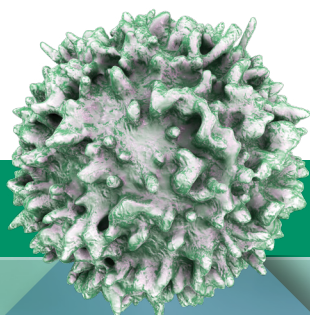
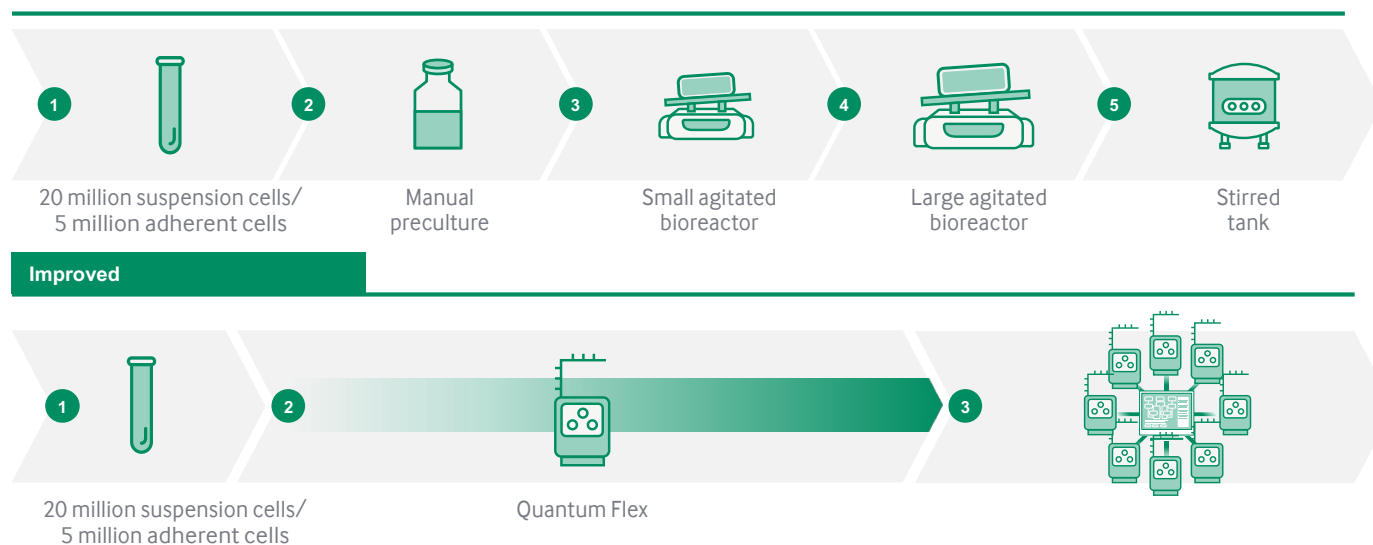
Expand a wide variety of cell types*



*Performance varies by user and is dependent on customer processes and materials.



Simplify your process by reducing manual culture and open events.





Gain control and consistency through connectivity

The Cell Processing Application (CPA™) software works with the Quantum Flex device and disposable sets in a holistic, connected solution.

- Protocol builder and management across devices
- Report management and advanced reporting capabilities
- Remote monitoring and alarming
- One to 100 connected devices

Connectivity and automation also help streamline your path to compliance. Reduce time, risk, and cost:

- Facilitate cGMP compliance, including with FDA 21 CFR Part 211
- Maintain data integrity and facilitate compliance with FDA 21 CFR Part 11 and EU GMP Annex 11

Explore flexible, customizable value

Our service offerings include:

- Installation Qualification/Operational Qualification (IQ/OQ) is a service to supply audit-quality data enabling you to certify compliance for your records; the fee for services includes labor, travel, and disposable sets.
- Quantum Flex uses our established, comprehensive certification protocols — reducing the work of developing and performing your own IQ/OQ protocols.

One-year warranty on parts and labor from the date of installation

- Bi-annual preventive maintenance (PM) is recommended for all devices post-warranty.
- We also offer full-service maintenance agreements.

Your needs evolve as your cell therapies progress. We adapt with you.

From preclinical development to commercialization, Quantum Flex is designed to meet your needs for automation, process development, scalability, and process improvement, and it can help streamline your path to GMP compliance.



Scalability



Reproducibility



GMP
compliance



Cost and labor
management



Reduced
variability



Reduced
contamination

Capture the benefits of the Quantum Flex Cell Expansion System. Contact a Terumo Blood and Cell Technologies representative today.



Terumo Blood and Cell Technologies is a medical technology company. Our products, software, and services enable customers to collect and prepare blood and cells to help treat challenging diseases and conditions. Our employees around the world believe in the potential of blood and cells to do even more for patients than they do today. [TerumoBCT.com](https://www.terumobct.com)

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