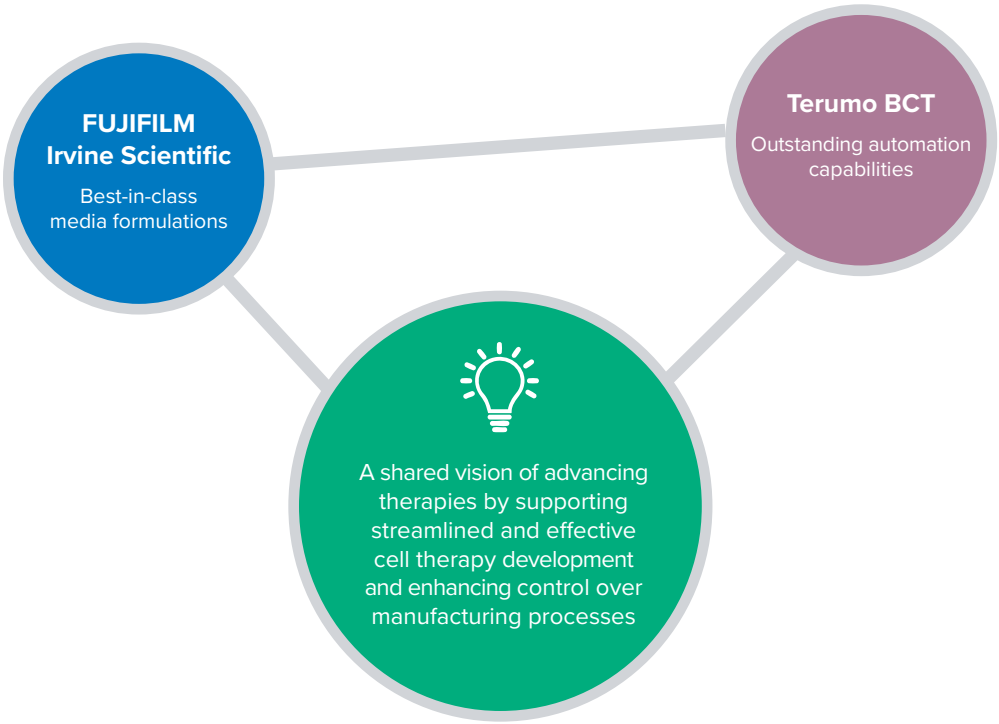
FUJIFILM
Value from Innovation

Ready-to-Use, Fully-Closed Solutions to Automate Large-Scale MSC and T Cell Expansion

ACCELERATE THERAPY DEVELOPMENT WITH TERUMO BLOOD AND CELL TECHNOLOGIES AND FUJIFILM IRVINE SCIENTIFIC CELL CULTURE MEDIA

Drive Advanced Therapies Forward with Synergy Between Media and Platforms

Determined to tackle challenges posed by cell therapy development and manufacturing at scale, FUJIFILM Irvine Scientific and Terumo Blood and Cell Technologies (BCT) come together to help you deliver critical therapies to patients faster.



Why choose Terumo BCT and FUJIFILM Irvine Scientific?

In cell therapy development, the outcome of cell expansion is closely linked with both the bioreactor or cell culture platform and the cell culture media. Terumo BCT and FUJIFILM Irvine Scientific have worked together to optimize cell expansion in the Quantum Flex platform across several different cell types. Protocols are available to streamline process establishment, de-risk the connection of media to bioreactors in a bagged format.

Customize and optimize parameters

Benefit from flexibility using Terumo BCT modular manufacturing services and FUJIFILM Irvine Scientific media products

Accelerate your process

Scale up, down, or out with a more rational approach to facility design

Simplify sourcing

Work with systems and reagents that are compatible with each other

Reduce manual steps

Maximize efficiency with the unparalleled technology of Terumo BCT and innovative, ready-to-use media of FUJIFILM Irvine Scientific

De-risk your media preparation

Enhance monitoring and control with Terumo BCT systems and FUJIFILM Irvine Scientific formulations

Fully Automate Processes with Terumo BCT Workflow Solutions for Cell Expansion

TERUMO BLOOD AND CELL TECHNOLOGIES

Collection **Expansion** **Fill and Finish**

Quantum Flex Cell Expansion System

Quantum Flex is a functionally closed, automated cell expansion system that can help you control your process with consistent expansion of a variety of adherent cells, suspension cells, viral vectors, and exosomes.

- Multiple sizes of hollow-fiber bioreactors enable scalable, perfusion-based cell culture with reduced usage of valuable reagents
- Robust software facilitates fleet and device management and following Good Manufacturing Practices (GMP)
- Ready-access to fresh media, waste removal, and gas exchange over micrometer distances

Refine Processes with Established Protocols from PRIME-XV Media and Quantum Bioreactors

PRIME-XV MSC XSFM DUAL COMPONENT KIT WITH OR WITHOUT PHENOL RED

Xeno-free, serum-free MSC expansion medium

- Formulated for MSC expansion
- Supports 8-fold expansion in xeno- and serum-free conditions
- Maintains multipotency and functional characteristics
- Supports a yield of 200 x 10^6 MSCs while maintaining stemness
- Simplifies and expedites the process of MSC expansion for large-scale solutions
- Minimizes risk of contamination and cell stress, and increases efficiency

PRIME-XV Dual Component Kit Delivers Consistent and Reproducible MSC Expansion in Quantum Flex

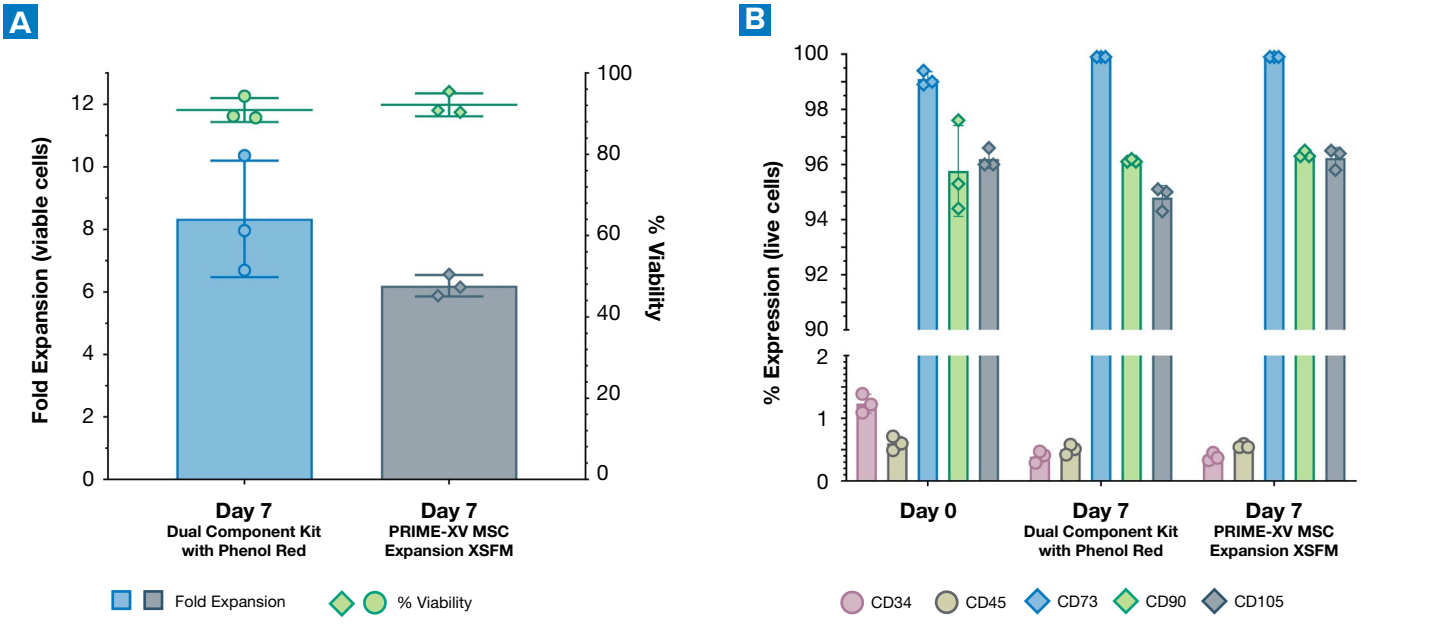


Figure 1. Large-scale expansion of MSCs in a closed-system format. Results from the 7-day expansion PRIME-XV MSC XSFM Dual Component Kit with Phenol Red shows that viability is consistently maintained at or above 90% **(A)**. ADMSCs maintain their stem cell phenotype at Day 7 post expansion in the Quantum Flex Cell Expansion System with PRIME-XV MSC XSFM Dual Component Kit with Phenol Red and PRIME-XV MSC Expansion XSFM **(B)**. The expression of negative markers for CD34 and CD45v remained well below 2% over the course of the culture.

Deliver Greater Numbers of T Cells with PRIME-XV T Cell CDM and Quantum Bioreactors

PRIME-XV T CELL CDM

Chemically defined, animal component-free T cell medium

- Formulated for T cell expansion
- Supports T cell growth in chemically defined conditions
- Performs transduction and expansion of T cells without requiring spinoculation or transduction enhancers
- Available in 5 L, made-to-order Quantum-compatible bags
- Shenandoah CTGrade GMP and RUO Recombinant Proteins available for bundling

PRIME-XV T Cell CDM Enables Rapid Cell Expansion in Quantum Flex

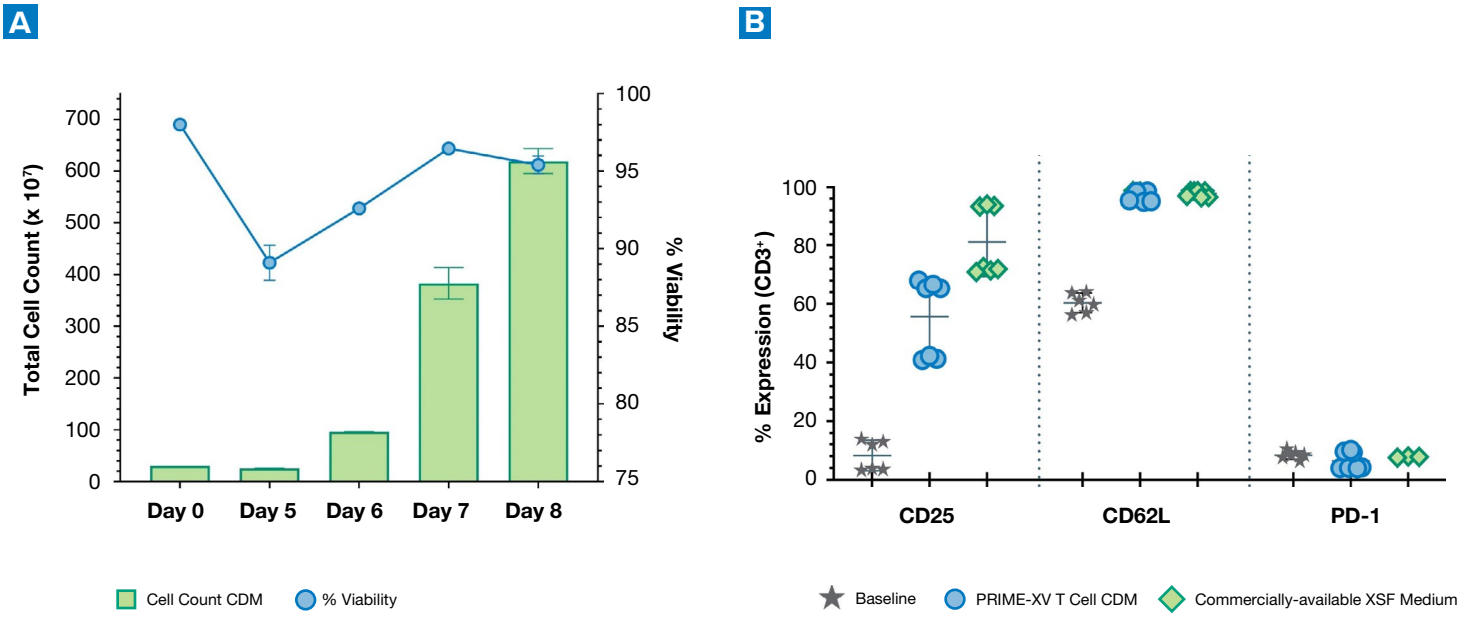
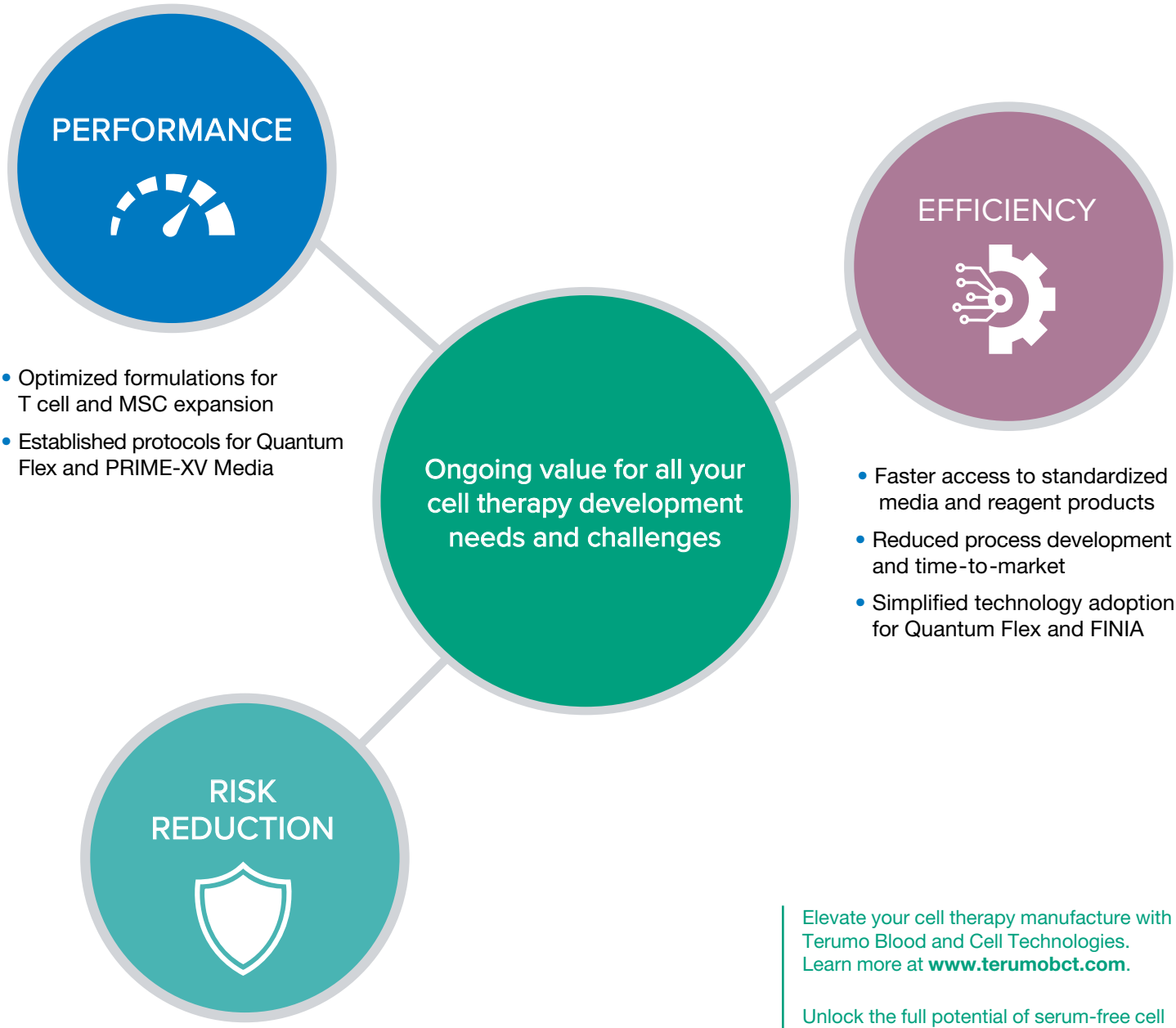


Figure 2. PRIME-XV T Cell CDM supports robust cell expansion in the Quantum Flex Cell Expansion System. Human PBMCs were activated 1:1 with anti-CD3 and anti-CD28 beads and expanded in the presence of 200 IU/mL IL-2. The 8-day expansion in the Quantum Flex Cell Expansion System yielded a total of 6 x 10^9 cells at 95% viability **(A)**. Cell count and viability (trypan blue exclusion) were assessed using the ViCell XR. PBMC cultures likewise show high CD62L expression and negligible levels of PD-1, analyzed by multiparameter flow cytometry on Day 9 **(B)**. Results are representative of 3 healthy donors.

Partnering for the Future: Expanded Workflow to Capture Needs of Collection Through Expansion, Fill, and Finish



A collaboration dedicated to accelerating life-changing therapies to patients

Our partnership represents a pivotal advancement in the development of innovative cell culture solutions. By combining our expertise and resources, we aim to address current challenges while delivering consistent and turnkey solutions that anticipate future industry needs.

From collection to fill and finish, FUJIFILM Irvine Scientific and Terumo Blood and Cell Technologies empower cell and gene therapy developers to swiftly automate and scale processes, enabling effective treatments for complex diseases. Together, we look forward to an era of unprecedented cell therapy growth and innovation—driven by our shared vision and commitment.

Ordering Information

Product Description	Catalog #	Size*	Additional Information
PRIME-XV T Cell CDM	91154	1 L 5 L**	Chemically defined, animal component-free formula. Does not contain antibiotics or phenol red.
PRIME-XV T Cell Expansion XSFM	91141	1 L	Xeno-free, serum-free T cell medium. Contains Gentamicin.
PRIME-XV MSC Expansion XSFM	91149	1 L 250 mL	Xeno-free, serum-free medium for MSC expansion.
PRIME-XV MSC XSFM Dual Component Kit with Phenol Red	91149DC	10 mL supplement 5 L basal	
PRIME-XV MSC XSFM Dual Component Kit without Phenol Red	91214DC		
PRIME-XV FreezIS DMSO-Free	91140	10 mL 100 mL	Protein-free, chemically defined, animal component-free cryopreservation medium. Does not contain DMSO.
PRIME-XV FreezIS	91139	10 mL 100 mL	Protein-free, chemically defined, animal component-free cryopreservation medium. Contains DMSO.
PRIME-XV Human Fibronectin	31002	1 mg	Human plasma-derived fibronectin, carrier-free.
CTGrade GMP rh IL-2_{C126S}	500-01	50 ug 100 ug 1 mg	Manufactured following GMP in a facility that does not use or process beta-lactam containing materials, no histidine tags, and 0.2 micron filtered. No animal- or human-derived materials were used during manufacturing or as ingredients.
CTGrade GMP rh IL-7	500-07	50 ug 100 ug 1 mg	
CTGrade GMP rh IL-15	500-08	50 ug 100 ug 1 mg	
CTGrade GMP rh IL-21	500-09	50 ug 100 ug 1 mg	
PBS 1X-Dulbecco's Phosphate Buffered Saline Solution w/o Calcium and Magnesium Salts	9240	1 L** 5 L**	Does not contain phenol red, sodium bicarbonate, or calcium and magnesium salts.
PBS 1X Dulbecco's Phosphate Buffered Saline Solution	9236	1 L** 5 L**	Without phenol red or sodium bicarbonate.
PBS + EDTA 1mM + HSA 0.5%**	99942	1 L** 5 L**	Does not contain calcium, magnesium, or sodium bicarbonate. Does not contain antibiotics or phenol red. Contains animal-derived components.

*Custom sizes and packaging available upon request.

**This item is made-to-order only.

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PRIME-XV and related products are for research use or further manufacturing only.
Not for injection or diagnostic procedures