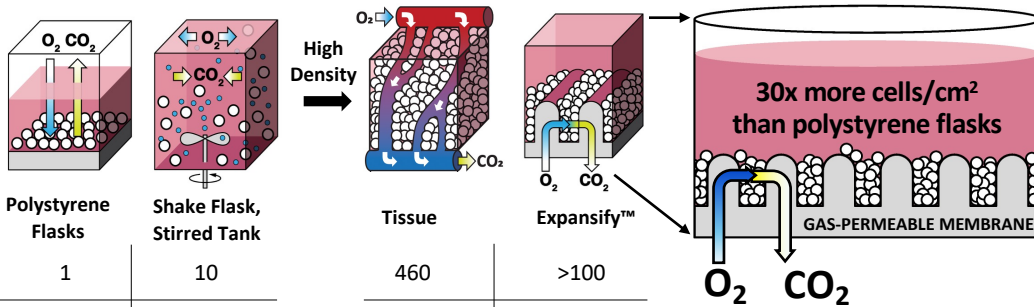


Overcoming the O₂ bottleneck enables tissue-like cell density *in vitro*

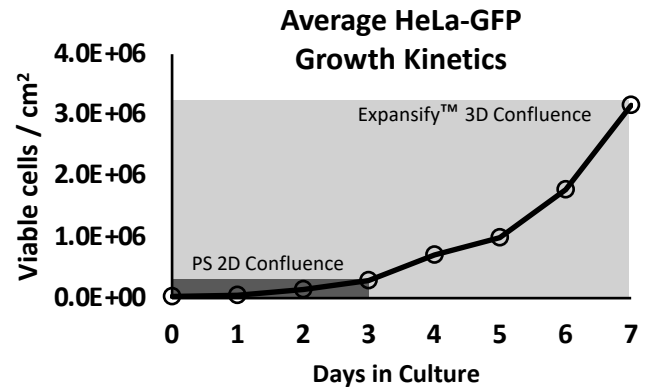
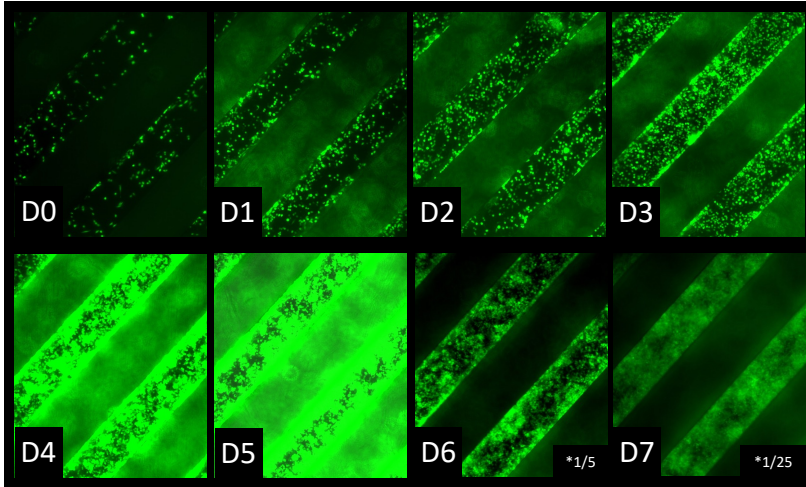
Expansify™ respiring cultureware features a gas-permeable membrane engineered for optimal oxygenation to enable intensified 3D culture of adherent, spheroid, or suspension cells.



Expansify™ enables:

- Optimal oxygenation
- Shear-free environment
- Cell retention
- Easy media exchange
- Linear scalability
- 3D culture

	Polystyrene Flasks	Shake Flask, Stirred Tank	Tissue	Expansify™
Mammalian Cells (1E6 cells / mL)	1	10	460	>100
O ₂ Turnovers, k_{1a} (1 / hr)	0.5	5	118	>100

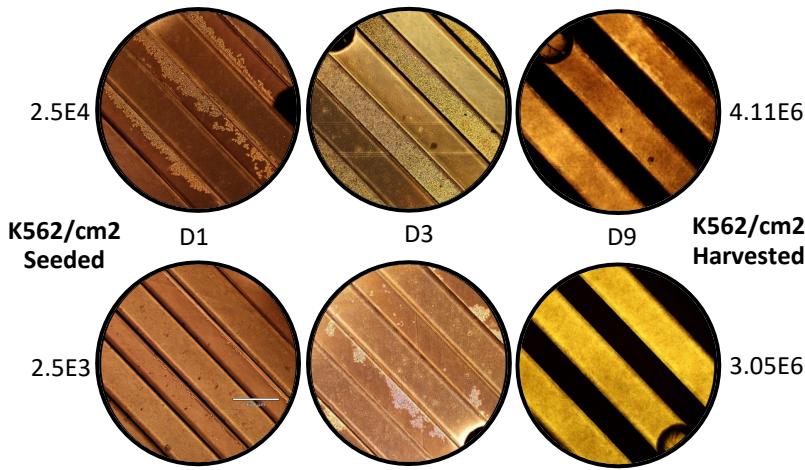


HeLa-GFP cultured in Expansify™ plates achieve >100-fold expansion in 1 week (D0= 2.6E4 cells/cm²; D7= 3.0E6 cells/cm²). *Fluorescence exposure reduced by 1/5 and 1/25 to stay within sensor range.

Expansify™ Plate and Tray Product Line

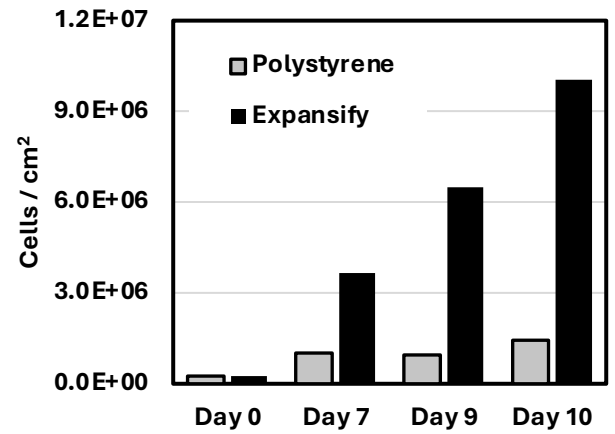
Yield (per cm ²)	96-Well Launch 2026	24-Well Available Now	6-Well Launch 2027	Single-Well Available Now	Gigacell™ RUO Tray Launch 2026 (Beta Units H1)
Expansify™: >3E6 cells					
Plates / Incubator	300	300	300	300	20
Total Cells (e.g. HEK293T)	1 million per well	8 million per well	35 million per well	250 million per plate	>1 billion per tray
Polystyrene: ~1E5 cells	 16 x 6-well plates	 24 x T-75	 6-9 x T-225	 11 x T-225 1.5 x 1720 cm ² flask	 44 x T-225 2x 10-stack

Ultra- Low Seeding Densities



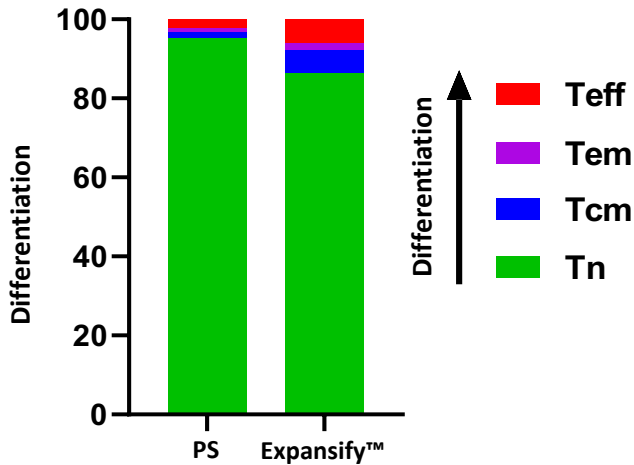
K562 cells seeded at 2,500 or 25,000 cells/cm² in Expansify™ 24-well plates, expanded to ~3D confluence without passaging, achieving ~1,220-fold and ~164-fold expansion, respectively. Expansify™ niches may concentrate local cell–cell signaling to shorten lag phase and support enhanced recovery from low-input cell populations, including patient-derived T cells.

High Yield



CAR-T cells generated using an established CRO process were expanded in either standard 24-well polystyrene or Expansify™ 24-well plates over a 10-day period. Expansify™ cultures achieved substantially higher cell yields and fold expansion, exceeding 20 million (M) cells per well and >10M cells/cm² by Day 10, compared with 1.4M cells/cm² in polystyrene.

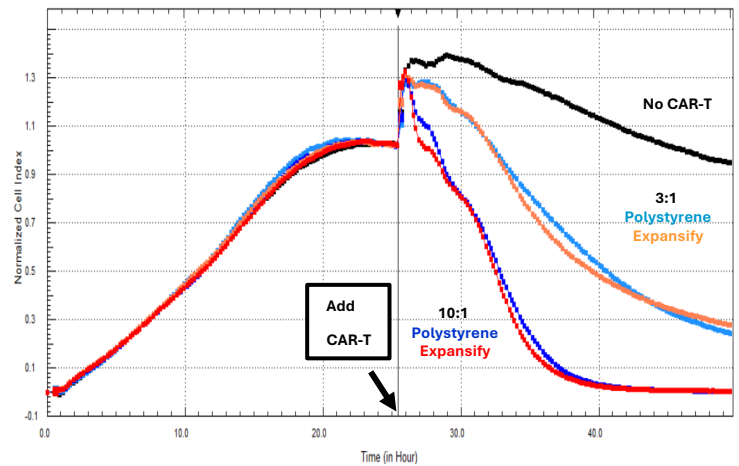
Favorable Phenotype



Day 10 CAR-T cells were analyzed by flow cytometry for CD4/CD8 distribution and memory phenotype (CD62L, CD45RA). Both culture platforms yielded predominantly naïve CAR-T cells, with similar distributions of naïve (Tn), central memory (Tcm), effector memory (Tem), and effector (Teff) subsets. These results indicate that Expansify™ supports CAR-T expansion while maintaining a favorable, less-differentiated phenotype.

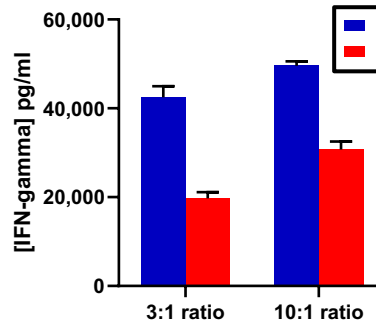
Preserved Potency

A Kinetics of CAR-T Cell-Mediated Target Cell Killing

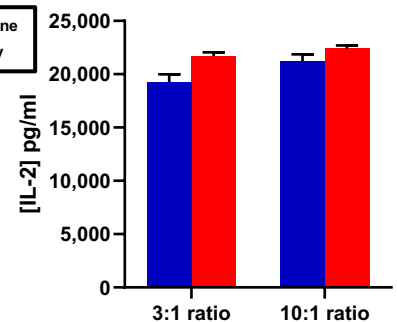


CAR T-cell data generated by ProMab Biotechnologies, Inc.

B CD19 CAR-T:IFN-gamma



C CD19 CAR-T: IL-2



(A) Day 10 CD19 CAR-T cells expanded in Expansify™ or standard polystyrene were assessed for *in vitro* cytotoxicity against HeLa-CD19 targets at effector-to-target ratios of 3:1 and 10:1. Real-time impedance measurements showed comparable target cell killing kinetics across platforms. (B) Expansify™-expanded CAR-T cells produced lower levels of IFN-γ, indicating preserved cytotoxic activity with moderated inflammatory cytokine output. (C) IL-2 secretions remained similar between conditions.

www.XDemics.com

Sales

Daniel Downie

Sales & Commercialization Manager
ddownie@xdemics.com

Technical Support

Austin Santiago

Director of Core Technologies & FAS
asantiago@xdemics.com

