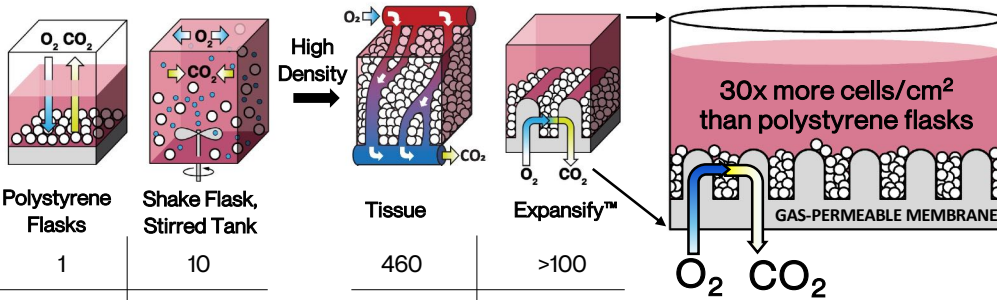


# [U] XDemics

Expanding T-Cell possibilities.

## Overcoming the O<sub>2</sub> bottleneck enables tissue-like cell density *in vitro*

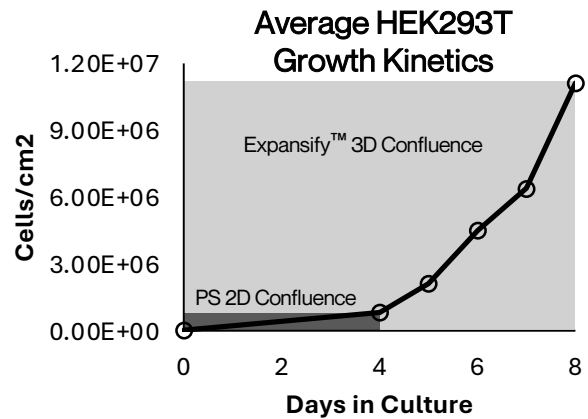
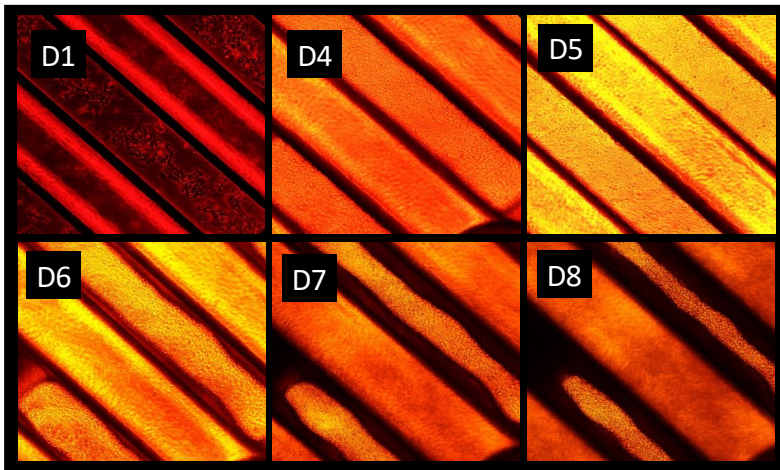
Expansify™ respiring cultureware features a gas-permeable membrane engineered for optimal oxygenation to enable intensified 3D culture of adherent, spheroid, or suspension cells.



### 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 <sub>2</sub> Turnovers, k <sub>1a</sub> (1/hr)	0.5	5	118	>100

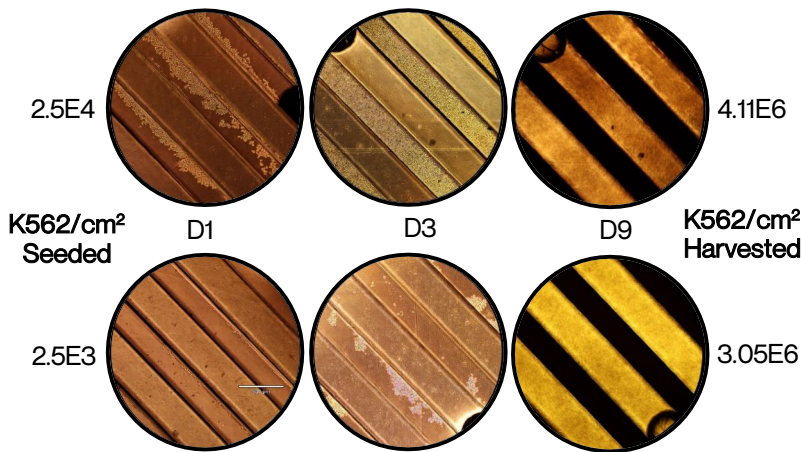


HEK293T cultured in vitronectin ECM coated Expansify™ plates achieve >450-fold expansion in 8 days (D0= 2.5E4 cells/cm<sup>2</sup>; D8= 1.1E7 cells/cm<sup>2</sup>) with >90% viability.

## Expansify™ Plate and Tray Product Line

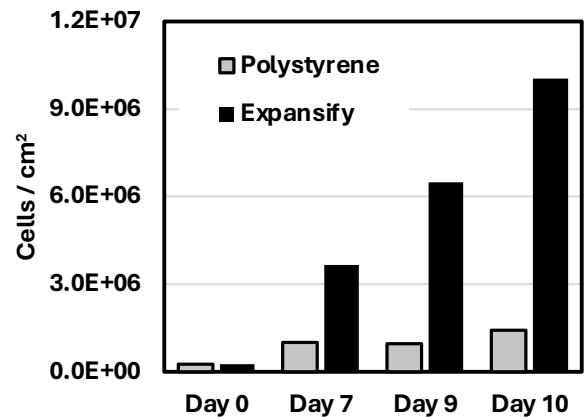
Yield (per cm <sup>2</sup> )	96-Well Launch 2026	24-Well Available Now	6-Well Launch 2027	Single-Well Available Now	Gigacell™ Tray Launch 2026 (Beta Units H1)
Expansify™: >3E6 cells					
Surface Area	0.32 cm <sup>2</sup> / well	2 cm <sup>2</sup> / well	8 cm <sup>2</sup> / well	70 cm <sup>2</sup> / well	387 cm <sup>2</sup>
Total Cells (e.g. HEK293T)	0.5 million/ well	20 million/ well	80 million/ well	500 million/ plate	>3.5 billion/ tray
Polystyrene: ~1E5 cells  -100x Yield / cm <sup>2</sup> Versus Polystyrene	 16 x 6-well plates	 24 x T-75	 6-9 x T-225	 1 x 10-Stack 3 x 1720 cm <sup>2</sup> flask	 6x 10-stack

## Ultra-Low Seeding Densities



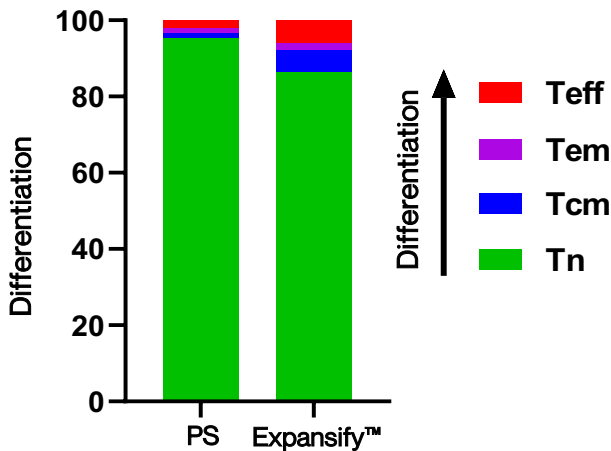
K562 cells seeded at 2,500 or 25,000 cells/cm<sup>2</sup> in Expansify™ 24-well plates, expanded to ~3D confluence without passaging, achieving ~1,220-fold and ~164-fold expansion, respectively. Expansify™ niches may concentrate local cell-cell signaling to shorten lag phase and support enhanced recovery 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/cm<sup>2</sup> by Day 10, compared with 1.4M cells/cm<sup>2</sup> in polystyrene.

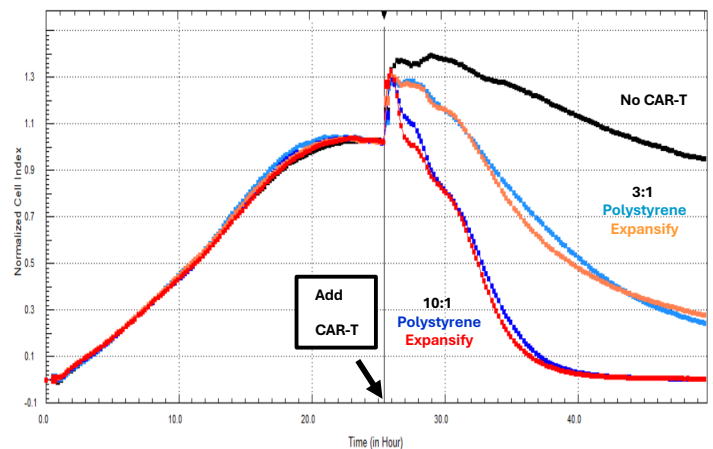
## Favorable Phenotype



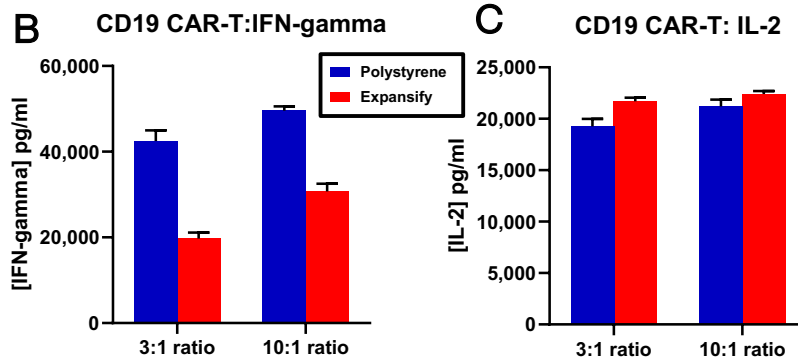
Day 10 CAR-T cells were analyzed by flow cytometry for CD4/CD8 distribution and memory phenotype (CD62L, CD45RA). Both culture platforms yielded predominantly naïve CAR-T cells, with similar distributions of naïve (Tn), central memory (Tcm), effector memory (Tem), and effector (Teff) subsets. These results 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.



(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- $\gamma$ , indicating preserved cytotoxic activity with moderated inflammatory cytokine output. (C) IL-2 secretions remained similar between conditions.

[www.XDemics.com](http://www.XDemics.com)

### Sales

**Daniel Downie**

Sales & Commercialization Manager  
ddownie@xdemics.com

### Technical Support

**Austin Santiago**

Director of Core Technologies & FAS  
asantiago@xdemics.com

