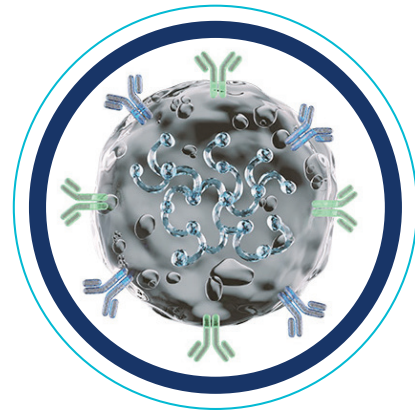


Cloudz™ Cell Activation Kits

For Cell and Gene Therapy Manufacturing

Cloudz Cell Activation Kits simplify the scalable expansion of immune cells for therapeutic manufacturing by maximizing expansion and recovery, while minimizing process interventions and eliminating the downstream risk of residual particulates.

Cloudz kits feature alginate hydrogel microspheres conjugated to specific cell-stimulating recombinant antibodies. Exposure of immune cells to the ligands on Cloudz microspheres activates intracellular signaling to promote robust cell expansion. Cloudz microspheres quickly dissolve when exposed to the Release Buffer supplied in the kits, allowing for gentle removal of the microspheres. This dissolving property allows for precise and rapid removal of residual Cloudz and their corresponding ligand from the expanded cells of interest.



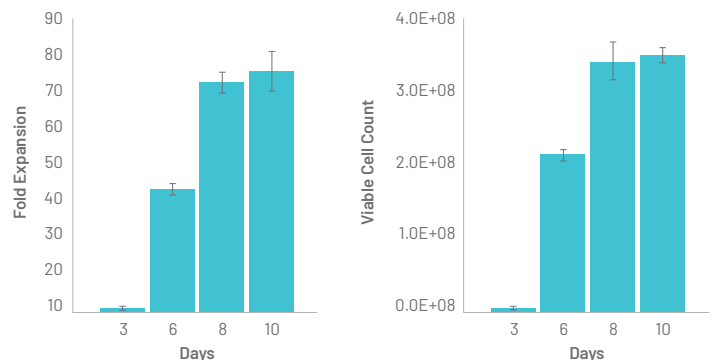
Cloudz kits provides time, safety, and practical advantages over existing technologies by:

- Simplifying the removal of activating reagent
- Eliminating risk of residual magnetic beads in final product
- Reducing cell loss and maximizing cell viability
- Supporting scalable manufacturing platforms (G-Rex bioreactors)

Cloudz Human T Cell Activation Kit

The Cloudz Human T Cell Activation Kit features CD3/CD28-conjugated dissolvable microspheres to activate and stimulate expansion of primary or gene modified (CAR or TCR) human CD4⁺ and CD8⁺ T cells.

- Stimulates > 50-fold expansion of T cells in 10 days
- Maintains a high population of naïve-like memory cells
- Supports expansion from mixed or purified T cell starting populations
- Features recombinant humanized CD3 and CD28 antibodies
- GMP and research-grade kits available to enable a seamless process scale-up

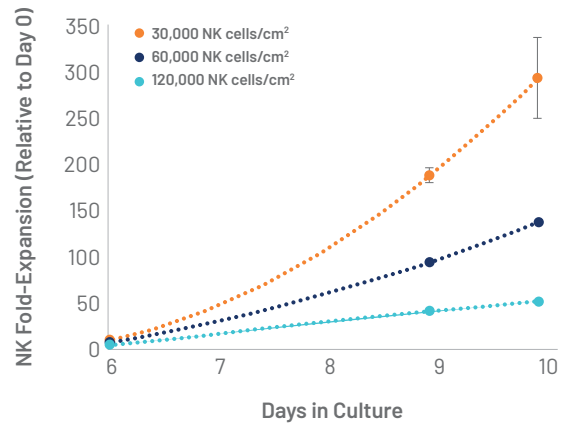


Robust T Cell Expansion. Purified CD3⁺ human T cells were seeded (0.5×10^6 cells/well) into G-Rex6M and cultured using ExCellerate T Cell Expansion Medium with GMP IL-7, GMP IL-15, and Cloudz T Cell Activation Kit. Fold expansion (left) and cell yield (right) were measured at Day 3, 6, 8, and 10.

Cloudz Human NK Cell Expansion Kit

The Cloudz Human NK Expansion Kit contains CD2/NKp46-conjugated dissolvable microspheres that are designed for the robust, feeder-free expansion of CD3⁺CD56⁺ human NK cells *ex vivo*.

- Stimulates up to 200-fold expansion in 10 days
- Expanded NK cells retain *in vivo*-like phenotype and killing activity
- Eliminates need for K562 feeder cells
- Supports NK cell expansion from mixed or purified starting cell populations
- Optimized for use with Bio-Techne cytokines and culture media

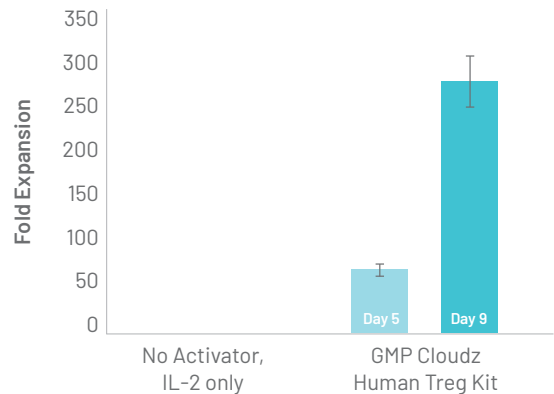


Robust NK Cell Expansion. Human NK cells, seeded at specific cell densities (NK cells/cm²), showed up to a 300-fold expansion following 10 days in culture using Cloudz NK Cell Expansion Kit and media supplemented with IL-2, IL-12, IL-18, and IL-21. NK cells were expanded from human PBMCs and cultured in G-Rex6M well plates.

Cloudz Human Treg Cell Expansion Kit

The Cloudz Human Treg Expansion Kit features CD3/CD28-conjugated dissolvable microspheres for the *ex vivo* expansion of FoxP3⁺CD25⁺ human regulatory T cells (Tregs) cells from purified CD4⁺ T cells.

- Greater than 500-fold expansion of Tregs in 9 days
- Features recombinant humanized CD3 and CD28 antibodies
- GMP and research-grade kits available
- Kits provide a seamless transition from discovery into clinical production



Rapid FoxP3⁺ Treg Expansion. Primary human CD4⁺ cells from 3 donors were activated with the GMP Cloudz Human Treg Cell Expansion Kit and cultured for 9 days in ExCellerate T Cell Expansion Media supplemented with GMP IL-2 (20 ng/mL). Fold expansion of FoxP3⁺ Tregs was evaluated by flow cytometry on Day 5 and Day 9 (relative to Day 0). Control cells were expanded without the addition of Cloudz.

Cloudz Kits Available

Product name	Format	Catalog #	Conjugated Antibodies
Cloudz Human T Cell Activation Kit	Research	CLD001	Recombinant Human CD3 and CD28
	GMP	CLD001-GMP	
Cloudz Human Treg Expansion Kit	Research	CLD004	Recombinant Human CD3 and CD28
	GMP	CLD004-GMP	
Cloudz Human NK Cell Expansion Kit	Research	CLD006	Recombinant Mouse CD2 and NKp46
	Research	Coming Soon	Recombinant Human CD2 and NKp46

scaleready.com

Contact us: info@scaleready.com

ScaleReady is a Joint Venture formed by Bio-Techne, Fresenius Kabi, and Wilson Wolf. Combining selected offerings from the three partners, the ScaleReady manufacturing platform combines tools and technologies for cell culture, cell activation and expansion, gene editing, and cell processing.

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