

MANUFACTURING SOLUTIONS FOR ROBUST CELL THERAPY EXPANSION AND HARVEST

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Key words: T cells, bioreactors, single use

The long-term view of regenerative medicine therapies predicts an increased need for expansion solutions that ease scalability, utilize animal origin-free materials and are compatible with limited downstream processing steps. As more cell therapeutics progress through clinical testing, current in vitro culture methods are proving cumbersome to scale and lack robustness. Moreover, high quality animal origin-free reagents and downstream processing devices support the future implementation of large scale manufacturing solutions that will be required following clinical success. Here, we describe the implementation of single use bioreactors and high quality media for expansion of cell therapies. We focus on autologous T cells and will review solutions addressing animal origin-free expansion of cells within the context of different upstream process development steps as well as scaling with good cell quality, high recovery, high viability and good activity. We also compare the effect of donor variability on performance. Start to finish solutions for expansion, including high quality reagents, are key enabling technologies for success in commercializing cell therapies.