Overview

The cost-effective production of AD- & BM-hMSC therapies will require scalable processes with the ability to consistently deliver hMSCs to the clinic. In addition to lot-to-lot variability, there are additional process constraints on the use of bovine-derived serum such as limited supply, potential for pathogen transmission and increasing cost at scale. These considerations are likely to limit the scalability of hMSC manufacturing processes based on bovine-serum and therefore must be addressed. Stemulate™ (human platelet lysate) has been proposed as a viable alternative and this work aims to evaluate this potential.

Conclusion & Perspective

Demonstrating the amenability of Stemulate™ as a replacement for bovine serum in the expansion and cryopreservation of hMSCs provides a step forward in developing scalable manufacturing processes. The increased growth kinetics and batch consistency associated with Stemulate™ combined with the reduced volume required for culture make it a viable alternative to bovine serum for future process development.

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EVALUATION OF STEMULATE™ FOR THE EXPANSION AND CRYOPRESERVATION OF HUMAN MESENCHYMAL STEM CELLS

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