



# Serum-Free Medium

World's first serum-free medium to allow the isolation and maintenance of human Mesenchymal Stem Cells

Reference: Serum-free

## Objective

Seeking Licensing Opportunities

## Research and IP Status

Patented

Preclinical testing has been completed

## Patents

US Patent No.10,472,05

European Patent No. 3074505

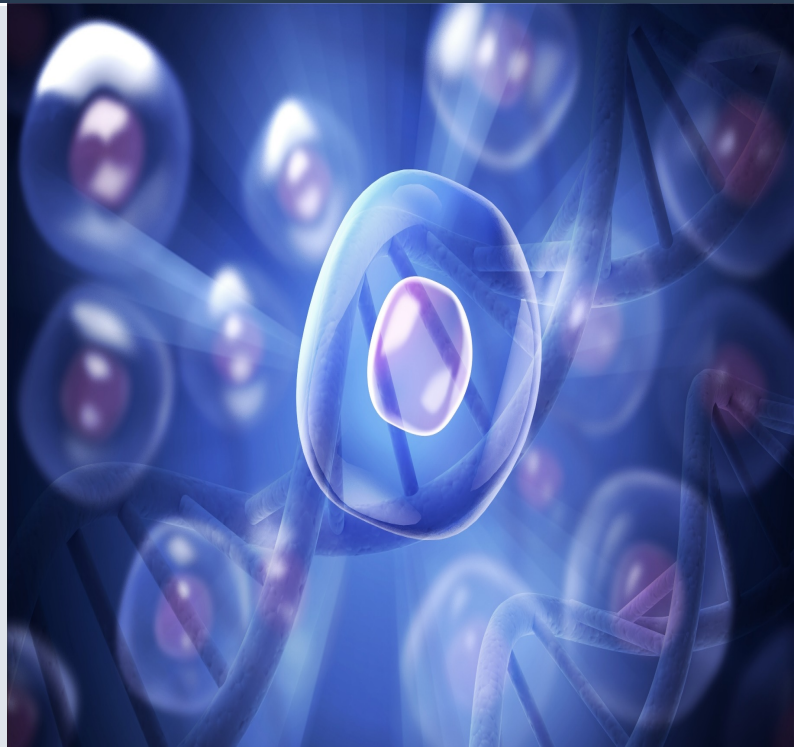


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## Background

The limited success of current pharmaceutical therapies is due to the absence of an innovative drug delivery system which can increase the safety and efficacy levels but also improve the overall performance of the therapeutic molecule. Stability and degradability control are two critical aspects that must be developed to facilitate delivery. Controlling these parameters simultaneously is a greater challenge, and most of the current carriers such as liposomes, microparticles and microemulsions do not support this, thus limiting their applications. Moreover, another major disadvantage of synthetic carriers is their toxicity and low in vivo efficiency. This is a consequence of their poor targeting ability and their short lifetime due to the presence of surface positive charge or the inherently low stability of their shells (liposomes). These factors lead to the degradation of the supramolecular structure and removal by macrophages before the carrier arrives at the host site.

# Tech Overview

World's first serum-free medium to allow the isolation and maintenance of human Mesenchymal Stem Cells (MSCs).

Animal serum is currently used to grow MSCs. This is problematic as this can lead to transmission of animal disease contaminating the cells; similarly there is a growing shortage worldwide of suitable serum for this purpose. This technology provides the only growth medium to allow isolation and growth of MSCs without the need for serum, providing a revolutionary safe and effective method for their production in this fast growing multi-million Euro market.

## Applications

- MSC culture and expansion (research and GMP-grade)
- Cell therapy
- ATMP manufacturing
- Tissue engineering

## Benefits

- Only serum-free medium to allow isolation of MSCs from bone marrow.
- Superior performance to current cell culture media on the market.
- Serum-free, chemically-defined medium avoiding potential contamination and disease transmission through serum usage.

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