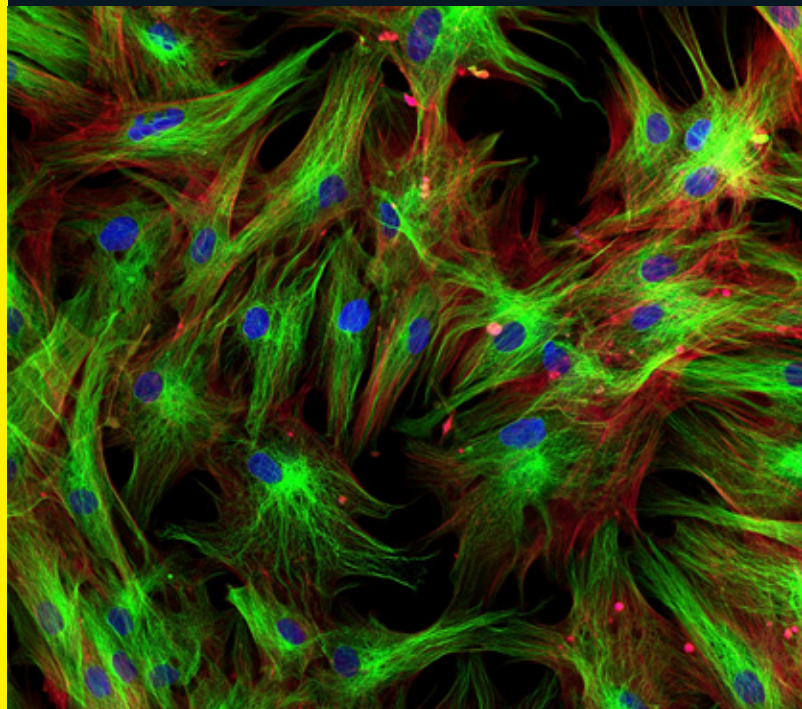


NutriStem[®] MSC Culture System

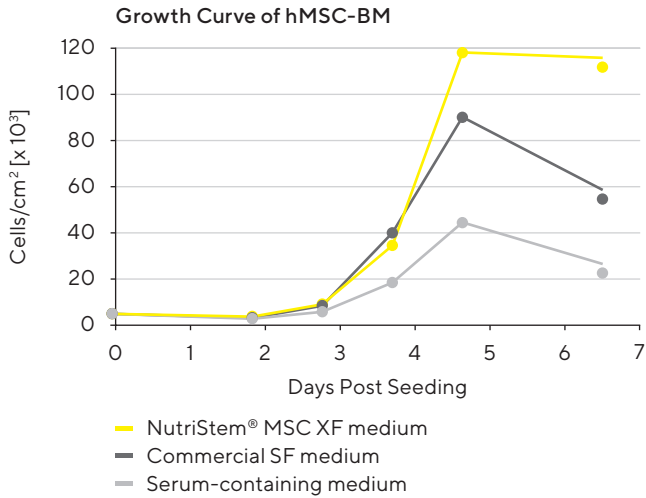
A Complete Xeno-Free,
Serum-Free System for the
Growth and Expansion of
hMSCs



Redefining Stem Cell Excellence and Advancing Clinical Applications

Defined, serum-free, xeno-free reagents are essential tools for all human mesenchymal stem cell (hMSC) research having potential clinical applications. The NutriStem[®] MSC Culture System includes defined reagents ideal for translational research use. hMSCs cultured in serum-free, xeno-free **NutriStem[®] MSC XF Medium** show superior proliferation and self-renewal potential in comparison to serum-containing media and other serum-free media.

In addition, hMSCs maintain their proper fibroblast-like cell morphology, tri-lineage differentiation potential, and demonstrate normal hMSC marker profiles and karyotypic stability over long-term culture. NutriStem[®] MSC XF Medium is designed for optimal growth and expansion of hMSCs derived from a variety of sources, including bone marrow (BM-hMSC), adipose tissue (AT-hMSC), Wharton's jelly (WJ-hMSC), placental tissue (PT-MSC), and umbilical cord matrix (UC-hMSC).



- Defined, xeno-free, serum-free medium
- Superior proliferation of hMSCs
- Supports long-term growth and differentiation potential
- FDA Drug Master File

MSC Attachment Solutions

- Xeno-free, purified human fibronectin | human fibrinogen
- Optimized for serum-free cultures
- For hMSC proliferation and differentiation

MSC Dissociation Solutions

- Ready-to-use, defined
- Recombinant trypsin solutions

NutriFreez[®] D10 Cryopreservation Solution

- Chemically defined, animal component-free, protein-free
- Excellent cell attachment and viability

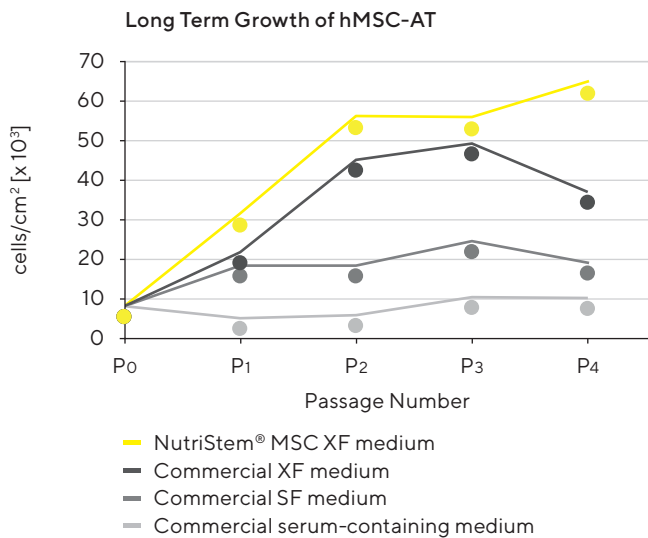
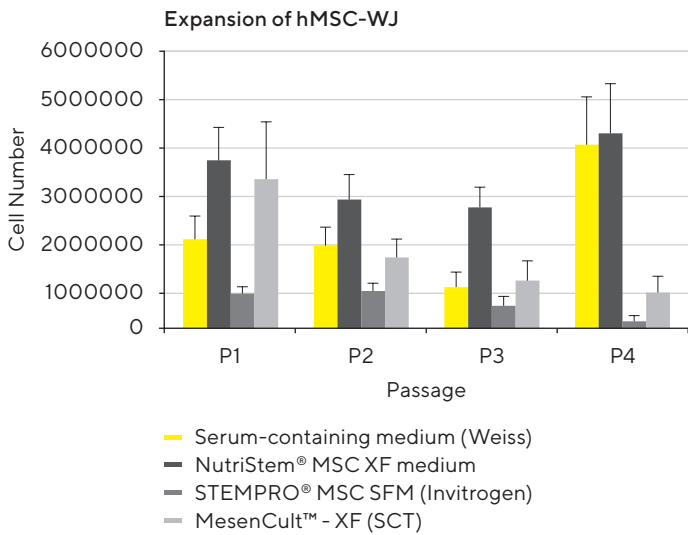
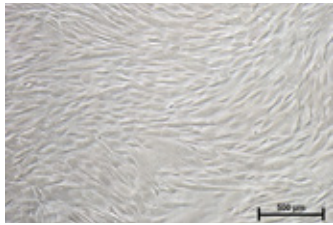
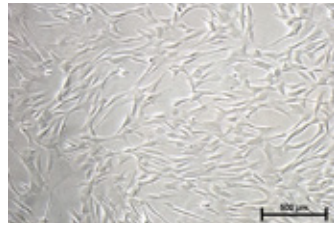


Figure 1: NutriStem[®] MSC XF Medium promotes superior proliferation and expansion of hMSCs over time as compared to other serum-free and serum-containing media.



Recombinant Trypsin Solution



Crude Trypsin-EDTA Solution

Figure 2: MSC Dissociation Solutions.

Recovery of BM-hMSC after dissociation with either Recombinant Trypsin Solution or Recombinant Trypsin-EDTA Solution and re-seeding on plates pre-coated with the MSC Attachment Solution and cultured in MSC NutriStem® XF Medium. Images were taken on Day 5 post-dissociation (100X).

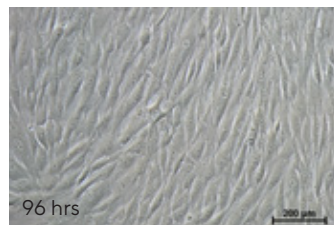
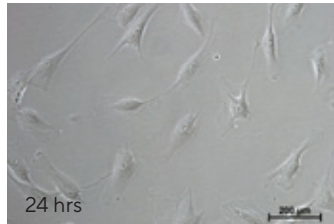
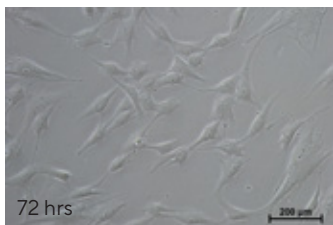
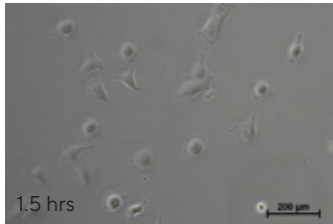
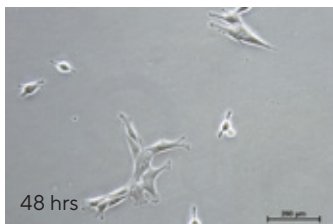
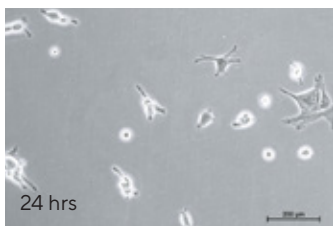
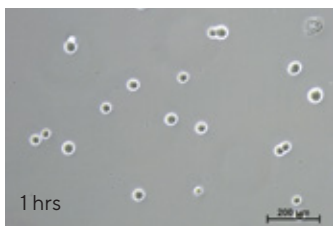


Figure 3: NutriFreez® D10 Cryopreservation Medium. Images show the recovery of BM-hMSC after thawing. Cells were frozen using NutriFreez® D10 Cryopreservation Medium, thawed, and re-seeded in MSC NutriStem® XF Medium on plates pre-coated with MSC Attachment Solution. Images were taken at the indicated time points post-thawing (200X).

A



B

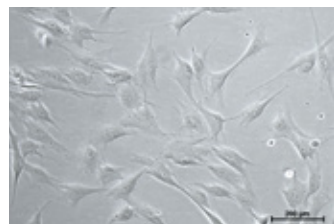
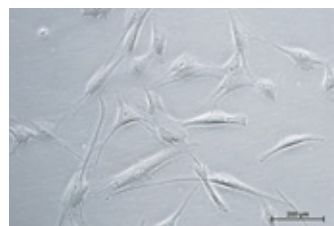
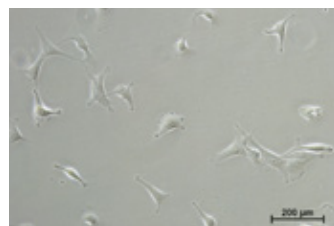


Figure 4: MSC Attachment Solutions. The use of MSC Attachment Solution greatly enhances BM-hMSC attachment and growth in culture. Cells in panel A images were cultured without MSC Attachment Solution. Cells in panel B were cultured with MSC Attachment Solution. Images were taken at the indicated time points post-seeding (200X).

Ordering Information

Cat. #	Product
05-200-1	MSC NutriStem® XF Basal Medium
05-201-1	MSC NutriStem® XF Supplement Mix
05-202-1	MSC NutriStem® XF Basal Medium, without Phenol Red
05-760-1	NutriCoat™ Attachment Solution
05-752-1	MSC Attachment Solution
05-713-1	NutriFreez® D10 Cryopreservation Medium
03-078-1	Recombinant Trypsin Solution
03-079-1	Recombinant Trypsin-EDTA Solution
PLTGOLD100R	PLTGold® Human Platelet Lysate (Research-grade)
PLTGOLD100GMP	PLTGold® Human Platelet Lysate (Clinical-grade)

Also available

MSCgo™ Differentiation Media

A unique line of complete, serum-free, and xeno-free media for efficient and reproducible differentiation of hMSCs.

- MSCgo™ Osteogenic XF Medium
- MSCgo™ Rapid Osteogenic XF Medium
- MSCgo™ Chondrogenic XF Kit
- MSCgo™ Adipogenic XF Kit

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 For further contacts, visit
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