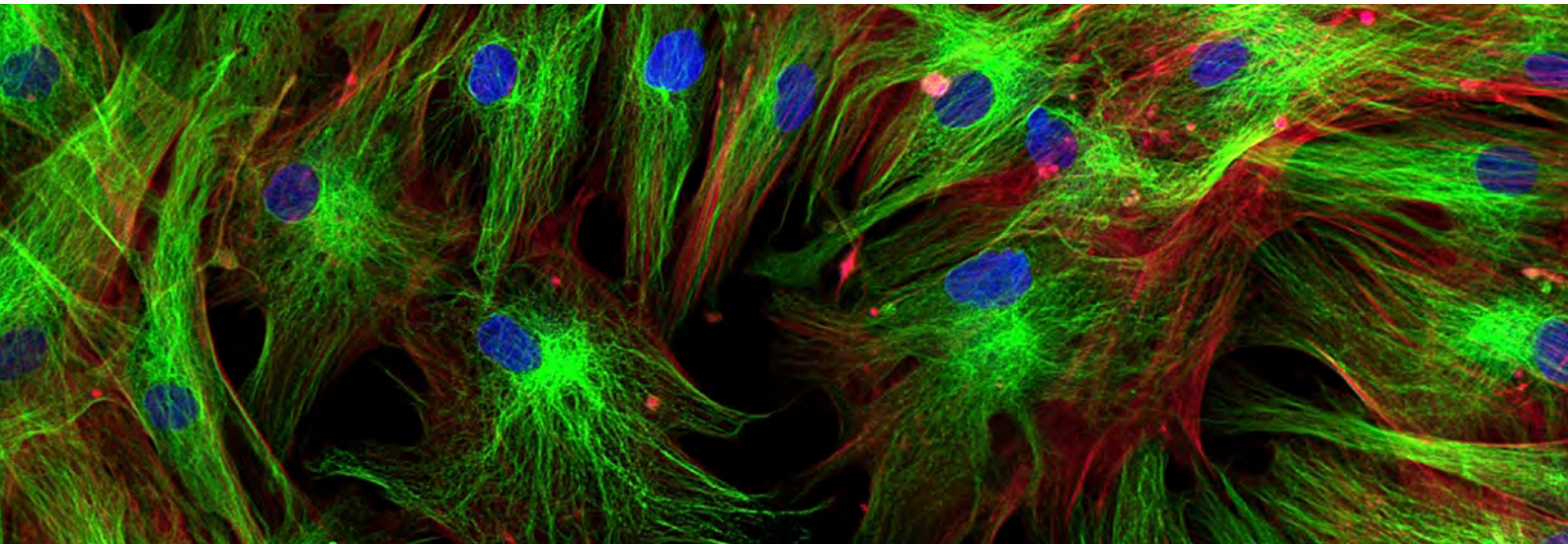




NutriStem® MSC Culture System

A complete xeno-free, serum-free system for the growth and expansion of hMSCs



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

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).

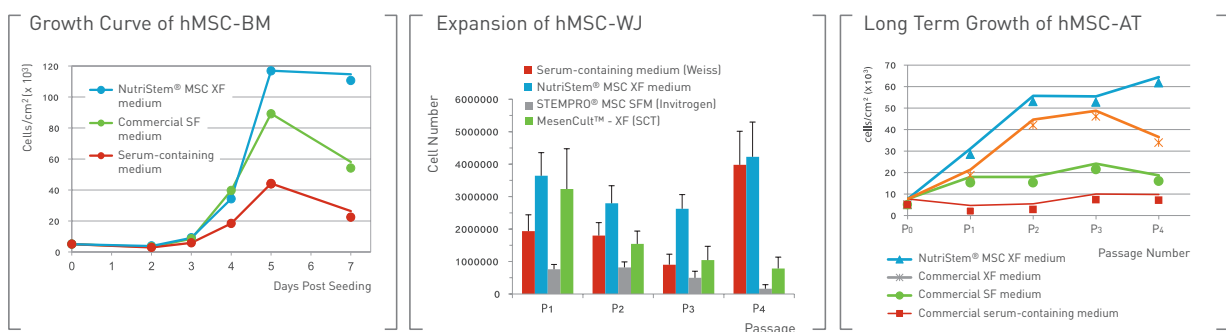


Figure 1: NutriStem® MSC XF Medium promotes superior proliferation and expansion of hMSCs over time as compared to other serum-free and serum-containing media.

MSC Attachment Solution

- Xeno-free, purified human fibronectin (hFN)
- Optimized for serum-free cultures
- For hMSC proliferation and differentiation

MSC Dissociation Solutions

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

MSC Freezing Solution

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

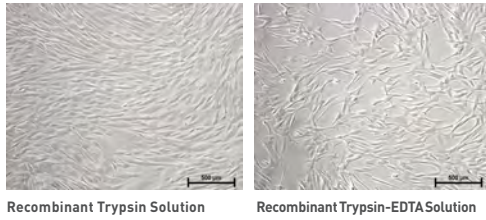


Figure 2: MSC Dissociation Solutions. Recovery of BM-hMSC after dissociation with either Recombinant Trypsin Solution or Recombinant Trypsin-EDTA Solution and re-seeding on plates pre-coated with the MSC Attachment Solution and cultured in NutriStem® MSC XF Medium. Images were taken on Day 5 post-dissociation (100X).

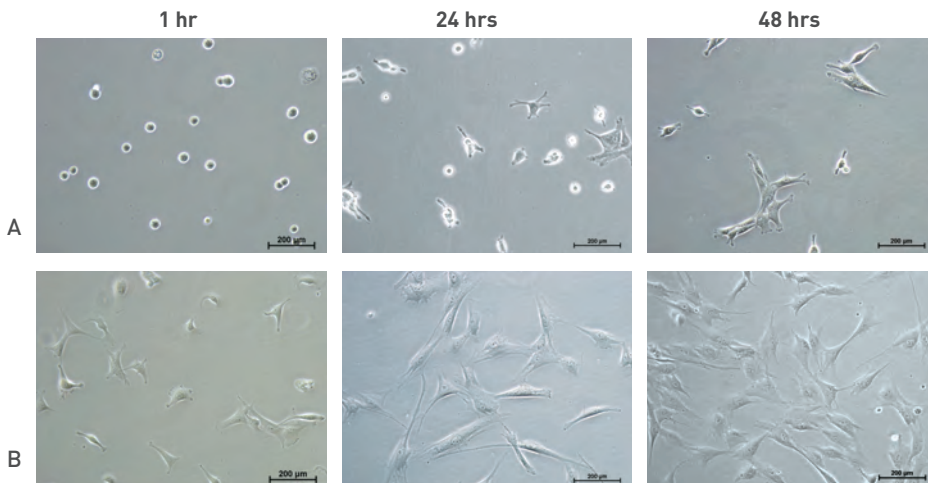


Figure 4: MSC Attachment Solutions. The use of MSC Attachment Solution greatly enhances BM-hMSC attachment and growth in culture. Cells in panel A images were cultured without MSC Attachment Solution. Cells in panel B were cultured with MSC Attachment Solution. Images were taken at the indicated time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

Ordering Information

Cat. #	Product	Qty
05-200-1A-KT	NutriStem® MSC Culture Medium*	500 mL
05-200-1B-KT	NutriStem® MSC Culture Medium*	100 mL
05-752-1F	MSC Attachment Solution	1 mL
05-752-1H	MSC Attachment Solution	5 mL
05-712-1D	MSC Freezing Medium	10 mL
05-712-1E	MSC Freezing Medium	50 mL
03-078-1B	Recombinant Trypsin Solution	100 mL
03-078-1C	Recombinant Trypsin Solution	20 mL
03-079-1B	Recombinant Trypsin-EDTA Solution	100 mL
03-079-1C	Recombinant Trypsin-EDTA Solution	20 mL

*Includes basal medium and supplement mix.

How to Order

Biological Industries USA | T. 860.316.2702 F. 860.269.0596 | orders-usa@bioind.com

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Culture of Excellence

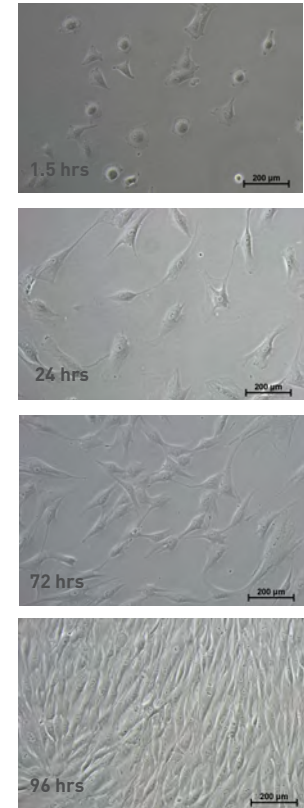


Figure 3: MSC Freezing Solution. Images show the recovery of BM-hMSC after thawing. Cells were frozen using MSC Freezing Solution, thawed, and re-seeded in NutriStem® MSC Medium on plates pre-coated with MSC Attachment Solution. Images were taken at the indicated time points post-thawing (200X).

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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