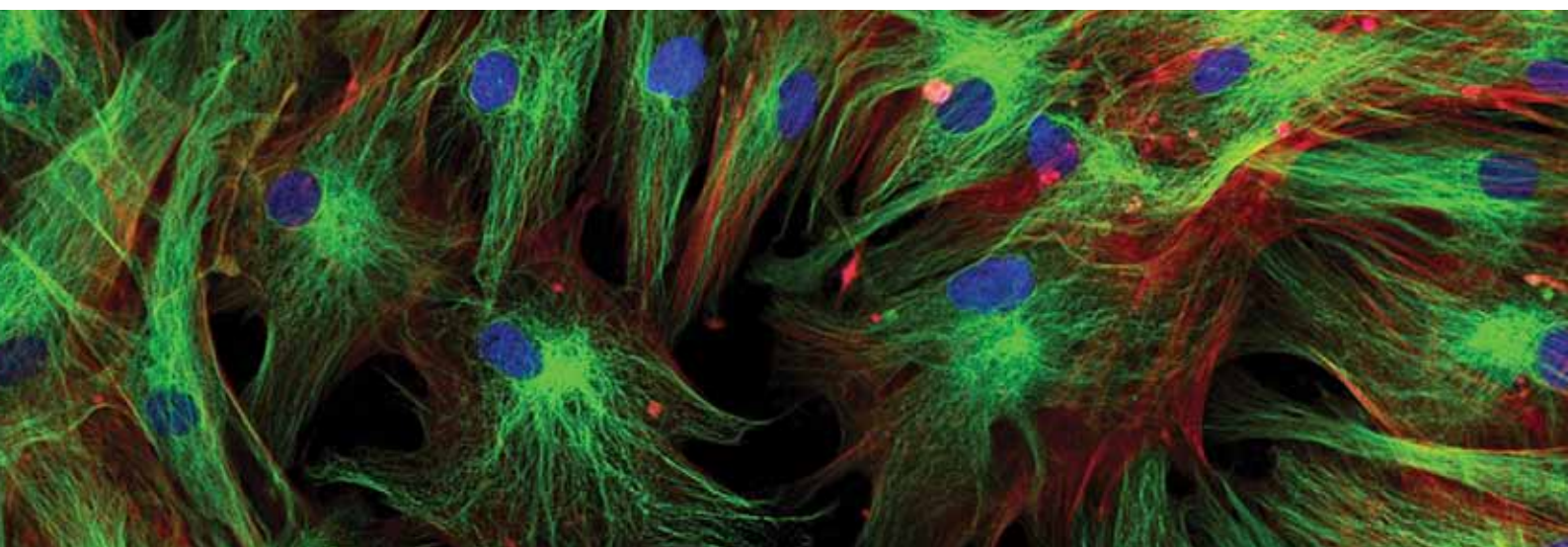


# NutriStem® MSC Culture System

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

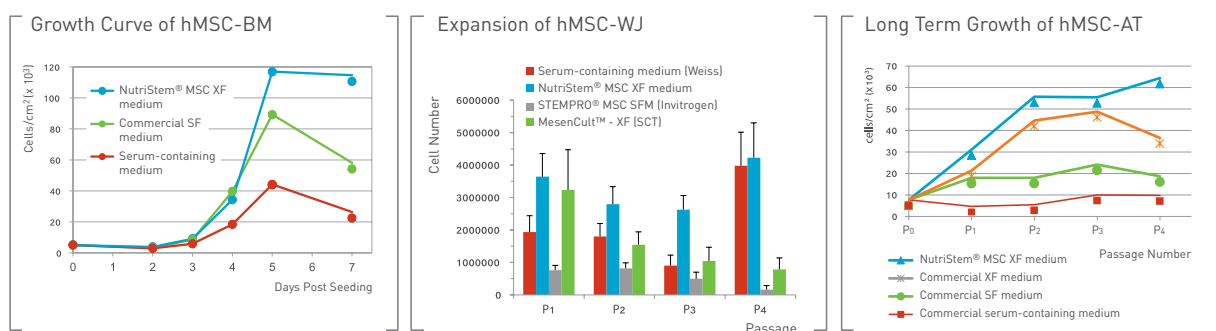


- **Defined, xeno-free, serum-free medium**
- **Superior proliferation of hMSCs**
- **Supports long-term growth and differentiation potential**
- **FDA Drug Master File**

## 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

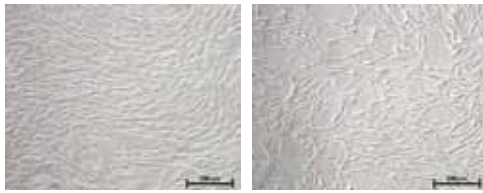
- Xeno-free, purified human fibronectin (hFN)
- Optimized for serum-free cultures
- For hMSC proliferation and differentiation

## 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



Recombinant Trypsin Solution      Trypsin EDTA solution

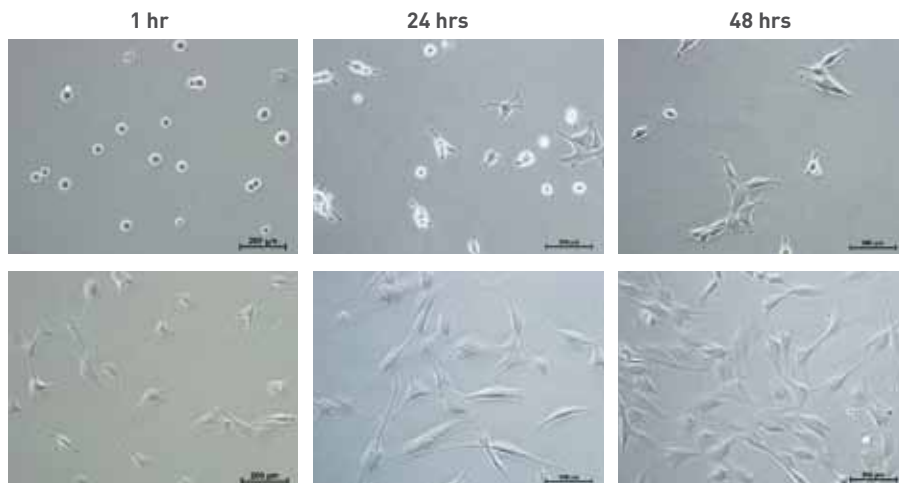
**Figure 2: MSC Dissociation Solutions.**

Recovery of BM-hMSC after dissociation with either Recombinant Trypsin Solution or the common Trypsin EDTA Solution (porcine) 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 3: MSC Freezing Solution.**

Images show the recovery of BM-hMSC after thawing. Cells were frozen using CryoStem™ MSC Freezing Medium, 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).



**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   | MSC NutriStem® XF Basal Medium    | 500 mL |
| 05-201-1U   | MSC NutriStem® XF Supplement Mix  | 3 mL   |
| 05-200-1B   | MSC NutriStem® XF Basal Medium    | 100 mL |
| 05-201-1-06 | MSC NutriStem® XF Supplement Mix  | 0.6 mL |
| 05-752-1F   | MSC Attachment Solution           | 1 mL   |
| 05-752-1H   | MSC Attachment Solution           | 5 mL   |
| 05-712-1D   | CryoStem™ MSC Freezing Medium     | 10 mL  |
| 05-712-1E   | CryoStem™ 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  |

## 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

## How to Order

Biological Industries | T. 972-4-996-0595 | F. 972-4-996-8896 | [info@bioind.com](mailto:info@bioind.com)

Biological Industries USA | T. 860.316.2702 | F. 860.269.0596 | [orders-usa@bioind.com](mailto:orders-usa@bioind.com)

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