

Human Mesenchymal-XF Expansion Medium

Stem Cell Culture Media

Cat. # SCM045

FOR RESEARCH USE ONLY
NOT FOR USE IN DIAGNOSTIC PROCEDURES

pack size: 500mL

Store at -20°C



Certificate of Analysis

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Description

The Human Mesenchymal-XF Expansion Medium is a xeno-free medium specially formulated for the rapid expansion of human mesenchymal stem cells isolated from a variety of sources, including adipose and bone marrow tissues. The medium contains 2% human serum, is free of animal-derived components and supports the growth of human MSCs at rates equal to or greater than other commercial xeno-free/serum-free media and media supplemented with 2-10% FBS. Human MSCs cultured in the medium retain self-renewal and multi-lineage differentiation potential. The Human Mesenchymal-XF Expansion Medium does not contain any antimicrobials, phenol red, or any other components that can cause cell stress and "masking effects" that may influence experimental results.

Presentation

The Human Mesenchymal-XF Expansion Medium is a complete medium and contains all the necessary growth factors and supplements to support human mesenchymal stem cell growth.

All components used within the media are of human origin and do not contain any animal derived components.

A separate ECM solution is **not required** to facilitate cell attachment.

Storage and Handling

Frozen medium should be stored at -20°C until expiration date.

Thawed medium can be stored at 2 to 8°C for up to 1 month.

Multiple freeze/thaw cycles are not recommended

Quality Control

These products are manufactured with the highest quality of raw materials, with exacting standards and production procedures to ensure lot-to-lot consistency. Every lot of medium is extensively tested for the following parameters:

Sterility Testing:	Negative for bacterial and fungal growth
pH:	7.5 ± 0.3
Cell Testing:	Rate of proliferation and morphology
Osmolality:	255 ± 15 mOsm
Endotoxin:	< 0.5 EU/mL

Medium Preparation

Human Mesenchymal-XF Expansion Medium is provided frozen and is a complete media and requires no further supplementation.

1. Thaw medium at room temperature or 2-8°C. Avoid repeated freeze-thaw cycles (up to two times).
2. After thawing, medium may be stored at 2 °C to 8°C for up to one month.

Thawing & culturing cryopreserved human MSCs

1. Cells can grow on normal tissue culture ware surfaces without any additional coating.
2. Rapidly thaw a frozen vial of Human MSCs in a 37°C water bath. Closely monitor until the cells are completely thawed.
3. In a laminar flow hood, transfer the cells to a sterile 15 mL conical tube. Be careful not to introduce any bubbles.
4. Slowly add dropwise 9 mL Human Mesenchymal-XF Expansion Medium (Cat. No. SCM045) (pre-warmed to 37°C) to the 15 mL conical tube.
5. Gently mix the cell suspension by slow pipeting up and down twice. Be careful to not introduce any bubbles.

IMPORTANT: Do not vortex the cells.

6. Centrifuge the tube at 300 x g for 2-3 minutes to pellet the cells.
7. Decant as much of the supernatant as possible.
8. Resuspend the cells in a total volume of 10 mL of Human Mesenchymal-XF Expansion Medium (Cat. No. SCM045).
9. Plate the cell mixture onto 10-cm tissue culture plates or multiple T75 tissue culture flasks. The recommended plating density is 4-5000 cells/cm² (approximately equivalent to plating cells recovered from one cryovial into three 10-cm tissue culture plates or three T75 tissue culture flasks).
10. Incubate the cells at 37°C in a 5% CO₂ humidified incubator. Exchange with fresh medium every 2-3 days.
11. Cells should be passaged when they are 80% confluent. Recommended plating density is 4-5000 cells/cm².

SPECIES LEGEND: H Human Ca Canine M Mouse R Rat Rb Rabbit B Bovine P Porcine WR Most Common Vertebrates

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Representative Lot Data

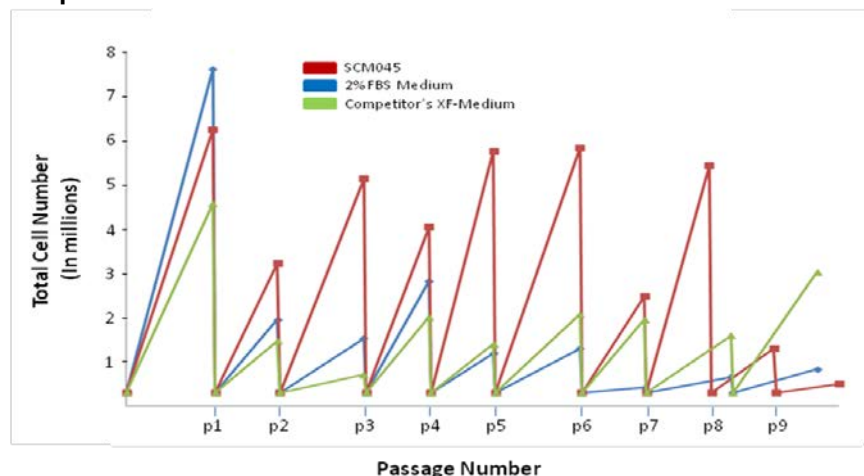


Figure 1. Expansion of human adipose derived MSCs (Cat. No. SCC038) over multiple passages in Human Mesenchymal-XF Expansion Medium and commercial competitors. Initial seeding density was 5000 cells/cm² which corresponds to 300,000 cells per T75 flasks. Cells were counted at Day 3 or Day 4 at each passage before being passaged to a fresh T75 flask at 5000 cells/cm².

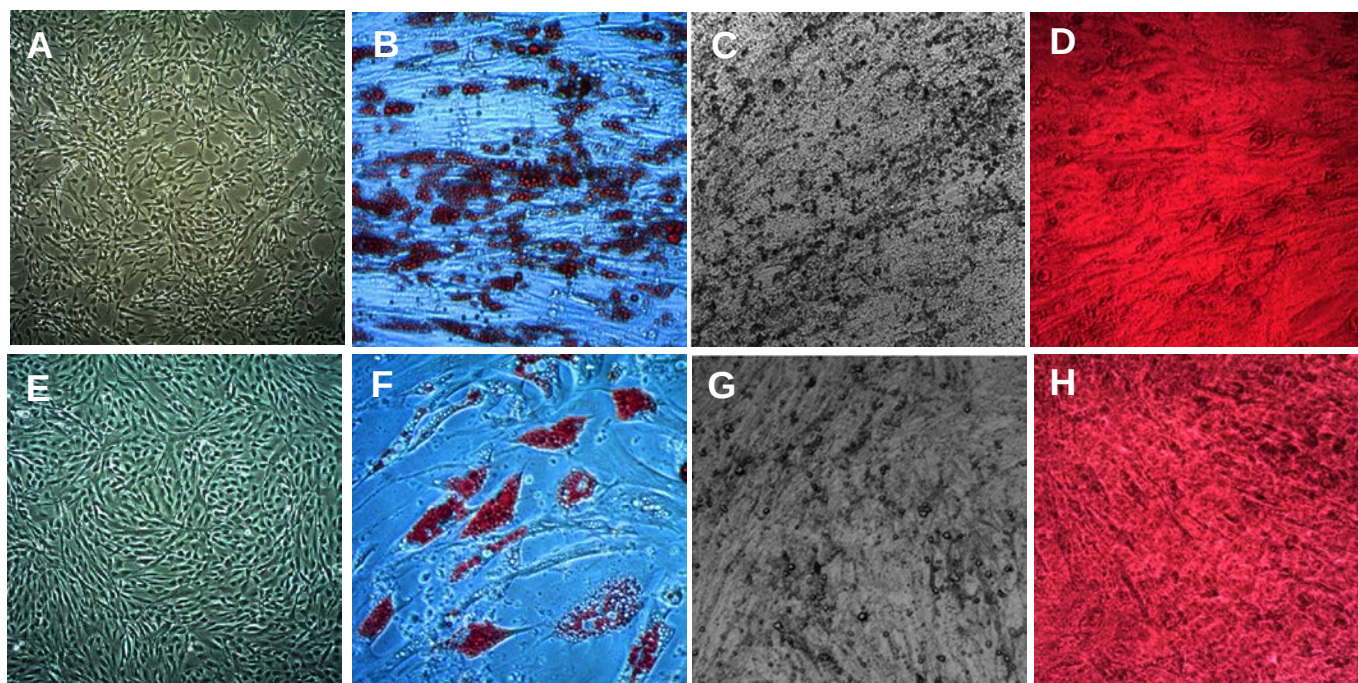


Figure 2: Human adipose (A) and bone-marrow (E) derived MSCs cultured in Human Mesenchymal-XF Expansion Medium for > 5 passages maintain the morphology characteristic of multipotent MSCs and retain the ability to differentiate into adipocytes (B,F), and osteocytes (C, D, G, and H).

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Please visit www.millipore.com for additional product information, test data and references

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cat #	description
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SCC036	■ Human Mesenchymal Stem Cells (derived from hES cells)
SCC038	■ Human Adipose Mesenchymal Stem Cells
SCM121	■ OsteoMAX-XF™ Differentiation Medium
SCR028	■ Mesenchymal Stem Cell Osteogenesis Kit
SCM023	■ Human Mesenchymal-LS Expansion Medium
SCM016	■ Mesenchymal Stem Cell Freezing Medium (1x)
SCR020	■ Mesenchymal Adipogenesis Kit

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