



Miltenyi Biotec

# Xeno-free system for human MSCs

## StemMACS™ MSC Expansion Media Kit XF

StemMACS™ MSC Expansion Media Kit XF is perfect for the direct isolation and expansion of human mesenchymal stem cells (MSCs) from various sources, including bone marrow and lipoaspirate. Its xeno-free composition enables fast expansion while maintaining differentiation potential and immunomodulation ability.

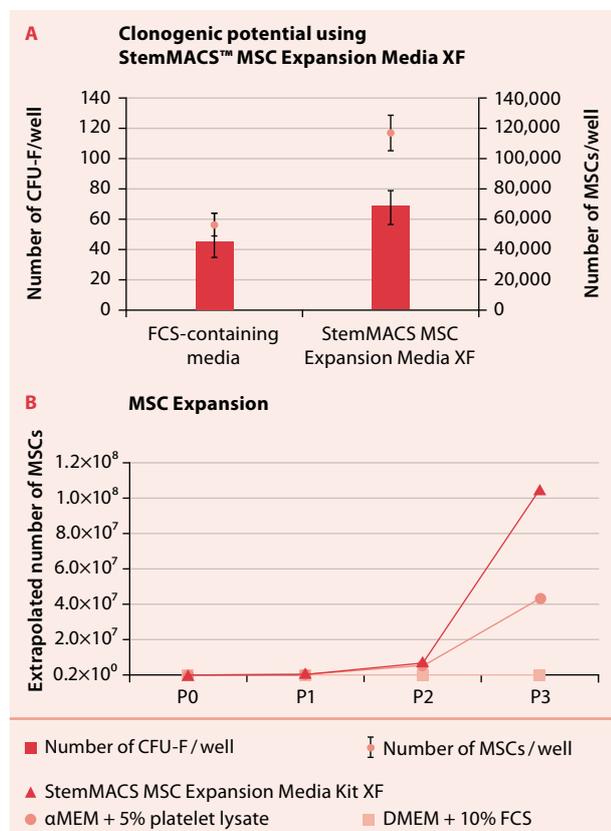
- Xeno- and serum-free
- No cell attachment substrate required
- Corresponding GMP-compliant MSC-Brew GMP Medium available
- Superior MSC expansion

► [miltenyibiotec.com](http://miltenyibiotec.com)



## Superior expansion of MSCs

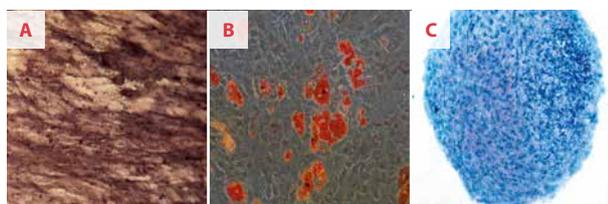
MSCs cultured in StemMACS™ MSC Expansion Media XF show an increased expansion rate compared to other standard MSC culture methods.



**Figure 1:** MSCs cultured in StemMACS MSC Expansion Media XF showed an increased clonogenic potential (A) as well as cell proliferation rate (B) compared to MSCs cultured in αMEM + 5% platelet lysate or when cultured in 10% fetal calf serum (FCS)-containing media.

## Preservation of differentiation potential

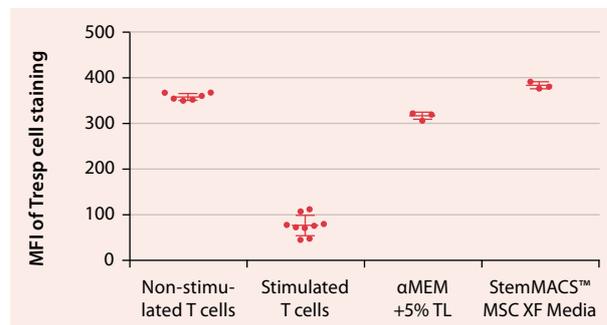
MSCs cultured in StemMACS MSC Expansion Media XF maintain their potential to differentiate into bone, cartilage, and fat cells.



**Figure 2:** Human MSCs cultured in StemMACS MSC Expansion Media XF were differentiated towards osteogenic (A), adipogenic (B), or chondrogenic (C) lineage using StemMACS MSC Diff Media. Cells cultured in StemMACS MSC Expansion Media XF maintain the broad differentiation potential.

## Perfectly suited for immunomodulation

MSCs cultivated in StemMACS MSC Expansion Media XF exhibit strong immunomodulatory properties.



**Figure 3:** Isolated MSCs were expanded either in StemMACS MSC Expansion Media XF or αMEM + 5% platelet lysate. The Immunomodulation was measured using the MSC Suppression Inspector by cell proliferation of responder T (Tresp) cells in co-culture with MSCs. In this proliferation assay, the plasma membrane of Tresp cells is stained with a fluorescent dye. With each division of the Tresp cells, the dye gets more diluted. Consequently, a decrease in MFI indicates a high Tresp cell proliferation rate. Upon polyclonal stimulation, Tresp cells alone showed a strong proliferative response. Co-culture of MSCs with Tresp cells resulted in reduced proliferation of Tresp cells. The presence of MSCs cultured in StemMACS MSC Expansion Media XF inhibited Tresp cell proliferation to a level of non-stimulated Tresp cells.

## Order information

Products	Capacity	Order no.
StemMACS MSC Expansion Media Kit XF	500 mL	130-104-182
MSC-Brew GMP Medium	2000 mL	170-076-325
StemMACS AdipoDiff Media	100 mL	130-091-677
StemMACS OsteoDiff Media	100 mL	130-091-678
StemMACS ChondroDiff Media	100 mL	130-091-679
MSC Phenotyping Kit, human	50 tests	130-125-285
MSC Suppression Inspector, human	2.5 mL	130-096-207