MACS

Miltenyi Biotec

Nonhematopoietic (NH) stem cell media

Optimized media for the

- **Enumeration**
- **Quality control**
- **Expansion**
- **Differentiation**

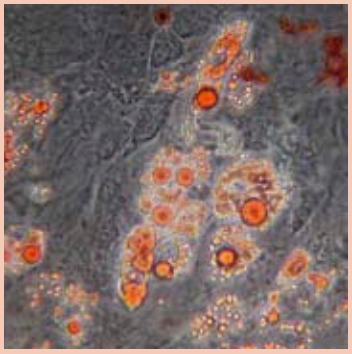
of human marrow stromal cells (MSCs)

Nonhematopoietic stem cell media

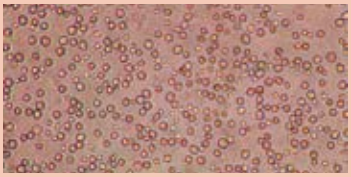
Throughout the whole life cycle the human body maintains a supply of adult stem cells that are able to proliferate and differentiate into mature cells of multiple hematopoietic and nonhematopoietic (NH) lineages. Nonhematopoietic stem cells from bone marrow and other tissues, termed marrow stromal cells (MSCs), show a high capacity to differentiate to nonhematopoietic tissues and are therefore a promising cell source for research into the potential alleviation or treatment of diseases and tissue injuries (tissue repair).

In order to better understand the processes that mediate the differentiation of MSCs into functional nonhematopoietic cell types, and to identify the factors involved therein, it is essential to establish efficient and reproducible procedures for the isolation and cultivation of target cells. The optimization and standardization of experimental conditions, such as *in vitro* culture systems, is an important first step.

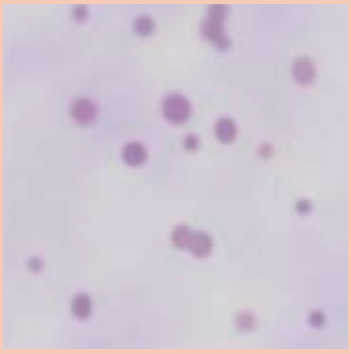
In addition to our unique reagents for the magnetic enrichment of nonhematopoietic stem cells, Miltenyi Biotec — your partner of many years for stem cell research — also provides a range of nonhematopoietic stem cell media. These media have been optimized for the most convenient enumeration, quality control, expansion, and differentiation of MSCs from human bone marrow as well as other sources such as lipoaspirate.



Adipocytes
NH AdipoDiff Medium



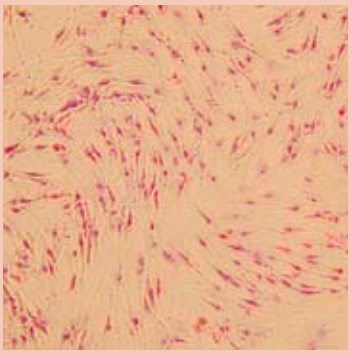
Bone marrow cells



MSC enumeration
NH CFU-F Medium

NH CFU-F Medium

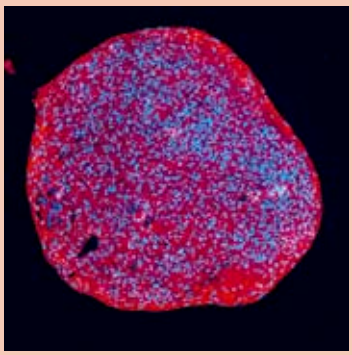
CFU-Fs (colony forming unit fibroblasts) represent stem and progenitor cells with nonhematopoietic differentiation potential. The CFU-F assay, an enumeration method for CFU-Fs, is the ideal method to evaluate the quality of bone marrow samples and aspiration procedures or for the general enumeration of the MSC content of other tissue sources. CFU-F assays can be performed using the convenient, pre-aliquoted NH CFU-F Medium.



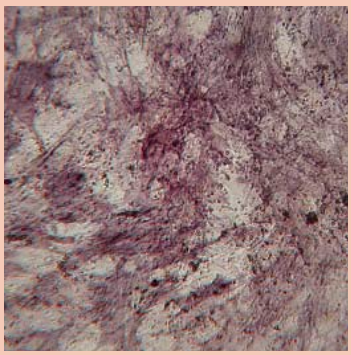
MSC expansion
NH Expansion Medium

NH Expansion Medium

MSCs are present at low frequencies in the bone marrow and other tissues. This often necessitates their expansion in order to obtain sufficient numbers for further experiments, such as MSC transplantation studies (animal models), differentiation studies, or gene/protein expression profiling.
The NH Expansion Medium has been optimized and standardized for the reproducible and reliable expansion of MSCs from human bone marrow, lipoaspirate, or other tissue sources.



Chondrocytes
NH ChondroDiff Medium



Osteoblasts
NH OsteoDiff Medium

NH differentiation media

MSCs consist of a mixture of progenitor cells that show broad differentiation potential, for example into cells of mesodermal lineages such as adipocytes, chondrocytes, and osteoblasts. NH AdipoDiff Medium, NH ChondroDiff Medium, and NH OsteoDiff Medium from Miltenyi Biotec are ready to use and have been optimized for evaluating the differentiation potential of MSCs from a variety of tissue sources.

NH media

Products

NH CFU-F Medium, 24×5 mL	#130-091-676
NH Expansion Medium, 500 mL	#130-091-680
NH AdipoDiff Medium, 100 mL	#130-091-677
NH ChondroDiff Medium, 100 mL	#130-091-679
NH OsteoDiff Medium, 100 mL	#130-091-678

Related Products

MSC Research Tool Box – CD271 (PE)	#130-092-867
MSC Research Tool Box – CD271 (APC)	#130-092-291
CD271 (LNGFR) MicroBead Kit (PE)	#130-092-819
CD271 (LNGFR) MicroBead Kit (APC)	#130-092-283
CD133 MicroBead Kit, human	#130-050-801
CD117 MicroBead Kit, human	#130-091-332
CD105 MicroBeads, human	#130-051-201
Anti-Fibroblast MicroBeads, human	#130-050-601

Quality

All MACS® Media are ready-to-use. They have also been thoroughly quality tested and are produced under controlled manufacturing conditions using high-quality ingredients, therefore show consistent lot-to-lot performance.

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