

Human Mesenchymal Stem Cell (MSC) Complete Medium

Catalog #2121 500mL

Product Description

Base Medium (450 mL) plus Supplements (50 mL).

Background

Mesenchymal cells may be harvested from the bone marrow, but are at a very low frequency compared to myeloid or erythroid progenitors. The frequency of the CFU-F is approximately 1:100,000 bone marrow mononuclear cells and we have previously shown that these cells are correlated with donor age (Clarke & McCann, 1989). These cells can be expanded in culture, and these expanded cells have been used to treat osteogenesis imperfecta (Horowitz et al, 1999), graft-versus-host disease (Ringden et al, 2007) as well as non-union fractures (presented by Paul Simmons, Mesenchymal Meeting, New Orleans, 2003). These cells lack expression of the CD45 and CD34 antigens and hence are sometimes called non-hematopoietic cells. The cells do express CD105, CD29 and CD73 antigens. These culture expanded cells have the ability to differentiate into a number of specific mature cells types including adipocytes (fat) and osteogenic cells (bone).

Procedure for Use

Thaw supplement bottle and add the entire volume to the Base Medium to generate "Complete Medium". The Complete Medium may be stored at +4°C for up to 6 weeks. This medium is optimized for the culture and expansion of mesenchymal stem cells. For optimal growth, tissue culture treated plastics should be employed and cells passaged into fresh Complete Medium when they reach approximately 70% confluence.

Stability and Storage

Store Base Medium at +4°C and Supplements -20°C until use.

Note

Antibiotics have not been added to either the Basal Medium or the Supplement Medium.

References

Clarke E and McCann, Bone Marrow Transplant 4: 596-597, 1989
Horwitz, EM et al, Nature Med 5: 309-313, 1999
Ringden O et al, Transplantation 81: 1390-1397, 2007

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