

Certificate of Analysis

Human Mesenchymal Stem Cells from Bone Marrow (hMSC-BM)

Description

Product Name	hMSC-BM-c / hMSC-BM-p
Order Number	C-12974 / C-12975
Lot Number	0050602.11
Donor Age / Sex / Race	57 / male / caucasian
Tissue / Localization	bone marrow / femoral head
Number of Viable Cells	850.000
Freezing Medium	Cryo-SFM (Order No.: C-29910)
QC Evaluation Medium	MSC Growth Medium (Order No.: C-28010) MSC Adipogenic Differentiation Medium (Order No.: C-28011) MSC Chondrogenic Differentiation Medium (Order No.: C-28012) MSC Osteogenic Differentiation Medium (Order No.: C-28013)
Stage of Culture	hMSC-BM-c: thawing and seeding results in passage 2 (3 rd culture) hMSC-BM-p: shipped in passage 2 (3 rd culture)

Viability & Growth Characteristics

Viability	80 % * (adherence of cells could vary under customer culture conditions)
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Phenotypic Characterization (tested within the first two passages)

Adipogenesis / Chondrogenesis / Osteogenesis	pass / pass / pass *
Differentiation Capacity up to	> 10 Population Doublings *
CD44 / CD105	> 95 % positive by flow cytometry **
CD31 / CD45	> 95 % negative by flow cytometry **

Test for Microbial Contaminants and Infectious Viruses

Bacteria / Fungi / Mycoplasma	negative / negative / negative
HIV-1	negative
HBV / HCV	negative / negative

* Using PromoCell's standardized culture system and procedures. The stated values may vary under customer culture conditions.

** Measured by Cell Lab Quanta SC™ (Beckman Coulter Inc.).

The tissue used by PromoCell for the isolation of human cell cultures is derived from donors who have signed an informed consent form, which outlines in detail the purpose of the donation and the procedure for processing the tissue (www.promocell.com/ethics).



A blue ink signature of Christian Leppert.

Christian Leppert, Ph.D.
Quality Control Manager

Date: 29 Jul 2010

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