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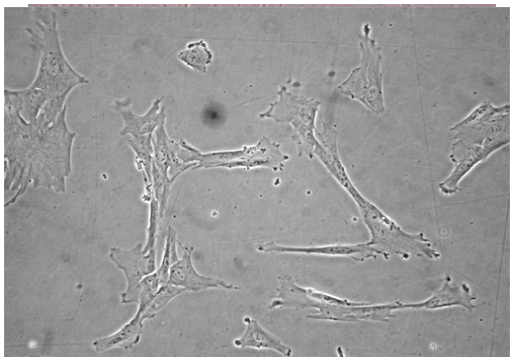
HUMAN UMBILICAL CORD MESENCHYMAL STEM CELLS (hMSC)

QUALITY CONTROL

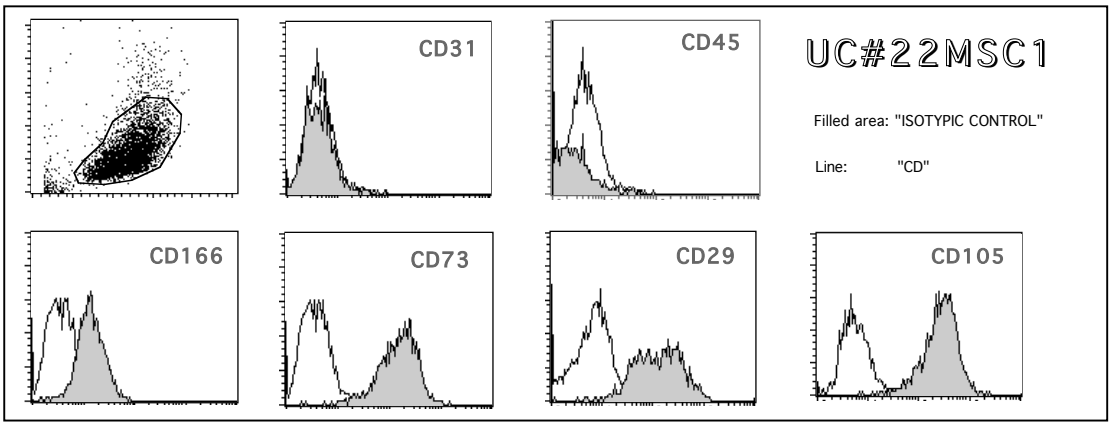


All cells have been processed in INBIOBANK following manufacturing procedures based on ISO9001:2000 norm in white room laboratory. Each cell donor is tested and found negative for: HIV-1, HIV-2, Hepatitis B and C (Abbot Prism chemiluminiscence assay) and mycoplasma (PCR Kit).

Cellular morphology and viability have been tested after criopreservation.

BIOLOGICAL CONTROL

Human Mesenchymal Stem Cells display a typical CD29+, CD73+ (SH3 and SH4), CD105+ (SH2), CD166+, CD45- and CD31- phenotype. In presence of specific differentiation factors, these cells have been shown to differentiate to osteocytes, condrocytes and fatty cells. (Ref. 1).



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Instructions for use:

Thawing of cells/initiation of culture

Frozen ampoules: These are 1 ml plastic cryotubes containing **1 million** cells and FBS (v/v) dimethylsulphoxide (DMSO). The cells are supplied in dry ice. When they are received, store in liquid nitrogen or use them immediately.

- Remove vial from Liquid Nitrogen or dry ice and immediately transfer to 37ºC water bath.
- While holding the tip of the vial, gently agitate the vial, being careful not to allow water to penetrate the cap or seal.
- Add 10ml warm complete media to a 15ml tube. When completely thawed, slowly transfer contents of vial to 15ml test tube and spin at 300g for 5min
- Remove media and resuspend pellet in a volume of complete media appropriate for flask (T75 flask).

Subculturing

- INBIOBANK recommends to plate a density of 1000-2000 cells/cm^2 for human mesenchymal stem cells
- hMSC cultures should be fed 3-4 days after plating. To feed the cultures, gently remove the medium from the well and replace with an equal volume of temperature equilibrated fresh medium.
- The hMSC should be subcultured when they are confluent (approximately 90%).

Culture media.

- Use Low-Glucose DMEM (Dulbecco´s modified eagle´s medium) supplemented with 10% Foetal Bovine Serum to feed human mesenchymal stem cells. Users should test a specific batch of serum for optimum growth of these cells.

SAFETY STAMENTS.

THIS MATERIAL IS FOR RESEARCH USE ONLY. Do not use in human assays, transplant or other *in vitro* diagnosis.

REFERENCES

1.- Covas, D. T. Siufi, J. L., Silva, A. R., Orellana, M. D. **Isolation and culture of umbilical vein mesenchymal stem cells.** Braz J Med Biol Res. Vol 36: 1179-83. 2003.
2. Lee, O. K., Kuo, T. K., Chen, W. M., Lee, K. D., Hsieh, S. L., Chen, T. **Isolation of multi-potent mesenchymal stem cells from umbilical cord blood.** Vol 103(5):1669-75. 2004

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