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EXPERIMENTAL STUDY ON CULTURE MODELLING AND PHENOTYPES ANALYSIS OF HUMAN BONE MARROW-DERIVED MESENCHYMAL STEM CELLS IN VITRO

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Objective To study the isolation, culture and identification of Human Bone Marrow-Derived mesenchymal stem cells (MSCs) in vitro, and analyse antigens expression.

Methods (1) To Collect normal human bone marrow, MSCs were isolated, cultured and amplified by density gradient centrifugation, adherence and enzymatic digestion (2) Morphological observation (3) Cultured cells were subjected to flow cytometer to analyse the expression of CD34, CD45, CD54, CD44, CD73, CD90, CD105, CD106, KDR.

Results MSCs were cultured in vitro by growth of clone-like cluster, amplified to the fourth generation of a more homogeneous cell morphology, and stability of multiplication is high; were positively stained for CD54, CD44, CD73, CD90, CD105, CD106, but were negative for CD34, CD45, KDR.

Conclusion MSCs with the characters of primitive stem cells can be cultured abundantly by modified method. Purity of MSCs can be assayed by analysing antigens expression, which can be used to stem cell transplantation