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## CHARACTERISTICS OF CULTURED MESENCHYMAL STROMAL CELLS ESTABLISHED FROM HUMAN CHORION

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Chorion is the outer fetal membrane around embryo developed from the trophoblast and the underlying mesenchyme. The objective of this work was to characterize cell lines obtained from chorion of different donors. The expression profile of surface CD markers expression in 3 lines obtained from three different donors was typical for human mesenchymal stromal cells (MSC). During the long-term cultivation the cells maintained the fibroblast-like morphology. In passages 4–5 the dynamics of the cell cycle was common for normal human cells of the mesenchymal origin: increased cell number phases of DNA synthesis and mitosis in the logarithmic growth phase which subsequently decreased with cell density. In passages 6–7 the pattern of cell cycle distribution altered: cell number in the DNA synthesis phase decreased. Cells accumulated in the G<sub>2</sub>/M phase and polyploids number increased. Flow cytometry showed a rapid decrease in the proliferative activity of the cells during their passaging. The population doubling time for the cell for one line in passages 4–5 was 40 h and it increased by passage 6–7 to 52 h. For the other two lines, the doubling time 80 h in passages 4–5 and the cells died after the 6–7th passage, ELISA revealed a significant level of VEGF secretion. Karyological analysis showed that chorionic cells in culture have a near-diploid karyotype, prone to breakdown of chromosome material. These results show that the chorionic MSC are not reliable an object both for use in laboratory studies with lengthy experiments and transplantation for regenerative medicine. However, a high level of VEGF factor secretion allows to consider these cells as a source of conditioned medium for therapeutic purposes.

**Keywords:** human mesenchymal stromal cells, chorion