



POSTER

Differentiation Potential and Characteristics of Mesenchymal Stem Cells Isolated from Human Umbilical Cord membrane to Hepatocyte-like Cells

Trung Kien Do, Van Hanh Nguyen, Huu Duc Nguyen, Chu Hoang Ha

Biotechnology Institute, Vietnam Academy of Science and Technology, Hanoi, VietNam

Abstract

Recent studies indicated that Mesenchymal stem cell has become a potential objective for therapy. In this study, umbilical cord cells were isolated and analyzed the expression of mesenchymal stem cells specific markers then they were differentiated into hepatocyte-like cells by DMSO and Gene transfection. Umbilical cord mesenchymal stem cell (MSC) was isolated by explant culture in media DMEM/F12, complementing with growth factors EGF, FGF and IST. After that, they were exposed to DMSO with three concentrations: 0.01%, 0.1%, 1% and another group was transfection with HNF4 α by Lipofectamin LX plus. The cells were analyzed at 1, 2, 3, and 4 weeks after treatment. The cells isolation was shown the positive with markers CD73, CD34, CD86, CD90, CD105, eras, Oct 1, GATA, and negative with markers HNF4 α , Alb and G6P. In group 0,1% DMSO treatment, after 3 weeks the cells were positive with markers HNF4 α but it was also negative with markers Alb and G6P. In the transfection group, the cell expresses HNF4 α at three weeks after treatment. Although our results exposure that the umbilical cord mesenchymal stem cells expressed hepatic specific marker after DMSO induced and DNA treatment. So it will be necessary to optimize research conditional and investigate the hepatic functions of these cells in a longer in vitro culture.

*For correspondence:

dotrungskienbio@gmail.com

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Keywords

Differentiation, Hepatocyte-like cell, In vitro culture, DMSO, Gene transfection, Umbilical cord stem cells

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References