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Poster Presentation

Three Dimensional Cultivation of Neural Stem Cells by Pura Matrix

Hadi Aligholi[1], Hassan Azari[2, 3], Gholamreza Hassanzadeh[4*], Ali Gorji[5, 6*]

[1]Department of Neuroscience, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran

[2]Neural Stem Cell & Regenerative Neuroscience Laboratory, Department of Anatomical Sciences, School of Medicine, Shiraz, Iran

[3]Shiraz Stem Cell Institute, Shiraz University of Medical Sciences, Shiraz, Iran

[4]Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

[5]Shefa Neuroscience Research Center, Khatam Alanbia Hospital, Tehran, Iran

[6]Epilepsy Research Center, Department of Neurosurgery, and Department of Neurology, Westfalische Wilhelms-Universitat Munster, Munster, Germany

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Abstract

There are two main methods for preparing the PuraMatrix (PM) as a three-dimensional (3-D) scaffold for supporting the cells including surface plating and encapsulation. In the surface-plating procedure, the scaffold is created by adding an ionic agent such as medium to PM. After adjusting the PH by changing the medium, cells are seeded on top of the scaffold. In the encapsulation method, PM and cells are mixed suddenly to produce a true 3-D culture. Because PM is very acidic agent, it can be harmful for sensitive cells such as neural stem cells. We introduced a new method for solving this problem. In this novel approach, firstly, scaffold was created, then, the neural stem cells were injected into the several sites of it. In this method, the survival of the cells was significantly high than that of other methods. This method can be used in future investigations in which a 3-D culture of neural stem cells in needed.

Keywords: Neural Stem Cells, Scaffold, Tissue Engineering, Hydrogels.

Corresponding Author: Ali Gorji and Gholamreza Hassanzadeh

E-mail: *gorjial@uni-muenster.de* and *hassanzadeh@tums.ac.ir*

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