serial experiments to evaluate the relative expression patterns of these genes.

Materials and Methods: Embryonic stem cells were cultured to form multicellular aggregates, called embryoid bodies (EBs). EBs were separated into two groups. In order to ectodermal differentiation, one group was cultured as a suspension form with KDMEM supplemented ES-FCS 10% media in the presence of retinoic acid for four days. The other group was cultured on the same media except Retinoic acid for endodermal differentiation. Retinoic acid treated and untreated EBs were plated in Neurobasal ES-FCS 5% media for 7 days to form mature neuron and cardiomyocytes.

Results and Discussion: Real Time quantitative PCR data were shown that PPARγ1 expression was increased in the early satge of ectodermal differentiation and the late stage of mesodermal differentiation. However, There was no expression of PPARγ2.

Keywords: Peroxisome Proliferator-Activated Receptors, Mouse Embryonic Stem Cells, Ectodermal Differentiation, Mesodermal Differentiation

Ps-49: Expression of Neural Progenitor Cell in Mouse Dental Pulp Stem Cells Cultured in Low Serum Media

Shabnam Kermani S[1*], Shahrul Hisham ZA, Sahidan S, Rohaya MAW

1. School of Biosciences and Biotechnology, Faculty of Science and Technology, UKM University, Kuala Lumpur, Malaysia

2. Faculty of Medical, UKM University, Kuala Lumpur, Malaysia

Email: sh_kermany@yahoo.com

Objective: Stem cells are the source of cells that has ability to differentiate to another cells. Among these cells, dental pulp, entrapped with the pulp chamber, is rich site for stem cell collection. These stem cells are called dental pulp stem cells. These cells exhibited a differentiation potential for neural cytotypes. The aim of this study was to isolate and proliferation dental pulp Stem cells and survey effect on serum on differentiation to nerve progenitor. In the present study, the *in vitro* neurogenic differentiating potential of mouse dental pulp stem cell was examined. The induction was carried out under the same inducting system as used for bone marrow cells.

Materials and Methods: Teeth were collected from mouse. The pulp tissue gently separated from the crown and root, and then digested in a solution of 4 mg/ml collagenase type I for 1 h at 37◦C. The dental pulp sample from each individual was pooled, and cultured with alpha-modified Eagle's medium (A-MEM) supplemented with 20% fetal bovine serum (FBS) then harvested pellete cells by centrifugation at 1200 g for 10 minutes. Dental pulp cells are seeded into T25 culture dishes with alpha-modified Eagle's medium supplemented with 20% (v/v) fetal bovine serum, 100 units/mL penicillin, and 100 µg/mL streptomycin at 37° C and 5% CO2. After 48 hours, the cells were washed with PBS for removal of another cell. Dental pulp stem cells were treated with A-MEM containing 5% (v/v) FBS and 1% (v/v) penicillin-streptomycin, so that the cells could proliferate sufficiently. After passage 4, we found the existence of progenitor nerve cell in culture cells.

Results: When mouse dental pulp cell were cultured in 5% of fetal bovine serum (FBS), the ratio of nerve cells and oligodenrocyte was significantly higher in comparison with incubation in 20% FBS.

Conclusion: We demonstrate the characterization and distinctiveness of the dental pulp and showed that, when cultured with the medium containing serum, they were highly proliferative. However, when cultured in low concentration of FBS, cells were differentiate into nerve cells. Lower concentration of FBS may provide the chance for the cells to differentiate into nerve cells and it useful for cell-based therapies to treat dental diseases.

Keywords: Dental Pulp Stem Cells, Differentiation, Nerve Cell, Fetal Bovine Serum

Ps-50: Study Effects of the 3 Different Feeder Layers on the Culture of Embryonic Stem Cells

Shams A[1*], Aghaee F[2], Forgani N[3], Hadigol T[1]

1. Anatomy Department, Qazvin University of Medical Sciences, Qazvin, Iran

2. Open Educations Affairs, Ministry of Research, Technology and High Education, Tehran, Iran

3. Biology Research Center of Azad University Branch, Tehran, Iran

Email: arshams_2000@yahoo.com

Objective: Using of embryonic & adult stem cells (Sc) in medical research and treatment has made a new horizon to progress in many disorders. So finding methods for better isolation & culture and maintenance of Sc has a specific importance. Aim of this reach was to evaluate of protective effects of 3 different layers of Mesenchymal stem cells (MSC), mouse embryonic fibroblast (MEF) & 3T3 on Sc for finding the best feeder layer for increasing the amounts of sells for transplantation, & differentiation. Purpose: evaluation of protective effect of MEF, MSC and 3T3 feeder layers in isolation and culture of mouse embryonic stem cells.

Materials and Methods: Blastocysts were obtained from Balb/c pregnant mice. Collected embryos were put on 3 different feeder layers of MEF, MSC & 3T3 cell lines. Two or 3 days later, the zona pellucida was removed and after 5 days the inner cell mass (ICM) growth, was removed mechanically and changed to small multi-cellular clumps through trypsination. Colonies of