Poster Presentation

Bioactive Substance ATC Can Generate Neurosphere from Adipose-Derived Stem Cells (ADSCs)

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Abstract

Generation neural stem cells from neurosphere-derived adipose tissue using bioactive substance ATC. Adipose tissue from rat hypodermal and pararenal fat was digested with collagenase, followed by filter and centrifugation; the isolated adipose stromal cells were cultured in dishes. These cells evaluated by specific markers of adipose-derived stem cells (ADSCs) such as bioactive substance ATC and then ADSCs differentionated in to neurosphere in four groups that compared morphologically. Diameter and number of this neurosphere evaluated every day in four groups. ADSCs are mesenchymal stem cells that can be extracted from adipose tissue and obtained by a less invasive method. ADSCs markers were measured by immunocytochemistery that expressed CD90 (80%), CD44 (70%) and fibronectin while CD45 didn't express. Diameter and number of Neurosphere by (0.1 ng/ml) was optimal dose for expansion. Then these cells evaluated by neuroectodermal markers such as nestin and NF 68 that expressed>80% and this data approved by RT-PCR technique. This study develops a simplified, efficient, and nontoxic approach by lowest factors which derives a large number of neurospheres from Adipose-derived stem cells (ADSCs). With our newly devised approach 10 to 15 passage cells were used for in vitro differentiation. Neuronal differentiation was induced by incubation of the ADSCs with bioactive substance (ATC) induction media.

Keywords: Bioactive Substance ATC, Adipose-Derived Stem Cells, Stem Cell Therapy.

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