

عنوان مقاله:

Estrogen treatment enhances neurogenic differentiation of human adipose derived stem cells in vitro

محل انتشار:

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خلاصه مقاله:

Objective(s): Estrogen is a sexual hormone that has prominent effects on reproductive and non-reproductive tissues. The aim of this study is to evaluate the effects of estrogen on the proliferation and neural differentiation of human adipose derived stem cells (ADSCs) during neurogenic differentiation. Materials and Methods: Isolated human ADSCs were trans-differentiated in neural induction medium containing neurobasal medium, N2 and B27 with or without 17β -estradiol (E_2) treatment. Proliferation rate and neural differentiation of human ADSCs were assessed using MTT assay, immunostaining and real time RT-PCR analysis, respectively. Results: Analysis of data show that estradiol treatment can significantly increase proliferation rate of differentiated cells ($P < 0.05$). Immunocytochemical and real time RT-PCR analysis revealed that the expression of precursor and mature neuronal markers (nestin and MAP2) was significantly higher in the E_2 treated cell cultures when compared to the untreated cell cultures ($P < 0.05$). Conclusion: According to our findings, estrogen can promote proliferation and neuronal differentiation of human ADSCs.

کلمات کلیدی:

Adipose derived stem cells Cell proliferation, Neurogenic differentiation, 17β -estradiol

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