

论文

绞股蓝皂苷对体外培养神经前体细胞增殖的影响

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摘要:

目的 探讨不同浓度绞股蓝皂苷(GPs)对体外培养的神经前体细胞(NPCs)增殖能力的影响。方法 从孕14d大鼠胚胎端脑分离NPCs,体外贴壁培养7d传代。传代第1代细胞培养3d,免疫荧光法鉴定NPCs纯度后进行分组实验。加不同浓度GPs(0、25、50、100、200、400 μ g / mL)作用48h后再次鉴定NPCs纯度,采用MTT法检测细胞活力、细胞计数绘制生长曲线、5-溴脱氧尿嘧啶核苷(BrdU)掺入法检测细胞增殖能力、Western blot法检测细胞内增殖细胞核抗原(PCNA)表达情况。结果 传代第1代培养3d的NPCs纯度达97%,GPs作用后不影响NPCs纯度,可使细胞活性增强,生长速度加快,BrdU阳性率增高,PCNA表达水平上调。结论 GPs可通过提高PCNA的表达量,促进体外培养的NPCs增殖,100 μ g / mL为GPs最佳作用浓度。

关键词: 绞股蓝属;增殖;大鼠,Wistar;神经前体细胞

Effect of gypenosides on proliferation of neural precursor cells in vitro

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Abstract:

Objective To study the effect of gypenosides (GPs) on proliferation of neural precursor cells (NPCs) in vitro. Methods NPCs were isolated from the brains of embryonic rats on day14 of pregnancy. After adherent culture for 7 days, the cells were passaged for the first time, and cultured for another 3 days. We identified the purity of the NPCs by immunofluorescence technique, then incubated the NPCs together with GPs in different concentrations(0, 25, 50, 100, 200 and 400 μ g / mL)for 48 hours. After that the purity of the NPCs was again identified, activity was measured by MTT chromatometry, a cell growth curve was drawn by cell counting, the proliferation of NPCs was measured by bromodeoxyuridine (BrdU) incorporation, and determined the expression level of proliferating cell nuclear antigen (PCNA) was determined by Western blot. Results The purity of the NPCs cultured for 3 days after being passaged for the first time was 97 %. Without changing the purity of NPCs, GPs increased the activity of NPCs, accelerated the growth of NPCs, improved the positivity rate of BrdU, and up-regulated the expression level of PCNA. Conclusion GPs promote the proliferation of NPCs in vitro through increasing the expression level of PCNA, and the optimal concentration of GPs is 100 μ g / mL.

Keywords: Gynostemma; Proliferation; Rats, Wistar; Neural precursor cells

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