

论著

## β-淀粉样蛋白对体外培养的神经干细胞作用研究

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**摘要** 目的: 观察β-淀粉样蛋白(Aβ)对体外培养的大鼠神经干细胞的作用。方法: 取E13 d的Wistar胚胎大鼠脑组织, 体外进行培养、传代、鉴定后, 加入β-淀粉样蛋白, 利用台盼兰拒染法细胞计数及MTT法观察细胞增殖及细胞活力, 利用流式细胞术观察凋亡程度, 同时观察加入β-淀粉样蛋白后, 分化状态神经干细胞(加入10%胎牛血清)的变化。结果: 当Aβ浓度大于25μmol/L时, 能明显抑制神经干细胞的增殖及活力, 同时引起神经干细胞的明显凋亡。而在12.5 μmol/L时就能抑制分化状态神经干细胞突起的延伸。结论: Aβ抑制神经干细胞的增殖分化并可致神经干细胞凋亡, 可能是Alzheimer's病的发病原因之一。

**关键词** [阿尔茨海默病](#); [干细胞](#); [淀粉样β蛋白](#)

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## Effects of β-amyloid protein on cultured neural stem cells in vitro

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### Abstract

<FONT face=Verdana>AIM: To study the effects of β-amyloid protein (Aβ) on neural stem cells cultured in vitro. METHODS: Neural stem cells (NSC) were isolated from E13 SD rats and cultured in serum-free medium (DMEM/F12). After detected by nestin, the Aβ was added to the NSC medium to observe the viability and proliferation of NSC by MTT, cell count and flow-cytometric examination. The effects of Aβ on differentiated NSC were also observed. RESULTS: Aβ markedly inhibited the proliferation and the cell viability of NSC when its concentration was higher than 25 μmol/L. The differentiability ability of NSC was inhibited when Aβ was in very low concentration. CONCLUSION: Aβ significantly inhibits the proliferation and differentiation of NSC and this may be one of the reasons that Alzheimer's disease is induced.</FONT>

**Key words** [Alzheimer disease](#); [Stem cells](#); [Amyloid beta-protein](#)

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