

人APP基因C-末端片段在PC12细胞中的稳定表达及其对细胞生长和发育的影响 The Stable Expression of Human APPGene C-terminal Fragment in PC12 Cell Lines and Its Influence on the Growth and Development of Cells

乌永中, 马康涛, 张乃衡 WU Yong-zhong, MA Kang-tao, ZHANG Nai-heng

北京医科大学生物化学与分子生物学系, 北京 100083 Department of Biochemistry and Molecular Biology, Beijing Medical University, Beijing 100083, China

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摘要 APP在AD病因学中是一个重要的分子, 但到目前为止尚缺乏良好的动物和细胞模型用来探讨APP在AD发病中的作用。本研究旨在建立过表达人APP基因C-末端片段的遗传工程细胞系。将人APP695cDNA 中编码C-末端105个氨基酸的片段重组到真核表达载体pDORneo中形成重组质粒pDORneo-CT, 然后用脂质体将其转染到大鼠肾上腺嗜铬细胞瘤细胞(PC12)中。用800μg/ml G418 筛选获得了在mRNA 和蛋白质水平均表达相应片段的稳定细胞系。细胞形态学观察和MTT, LDH分析表明, 该片段在细胞内的表达未能对NGF处理的PC12细胞产生明显的毒性作用。

Abstract:The major obstacles to clarify molecular mechanisms involved in amyloid metabolism of Alzheimer's disease has been the unavailability of animal and cell models for this unique human disease. The present research was aimed at establishing genetically engineering cell lines that overexpress the C-terminal fragment of human APPgene. Cloned human APPcDNA and retrovirus eukaryocytic expressing vector pDoRneo were used to prepare for the transformed PC12 Cell lines. RT-PCR and Western Blot showed that stable transfectants which express the corresponding fragment of APPgene in mRNA and protein level have been obtained. Morphological observation and MTT, LDH assay showed that no apparent toxic effects have been observed.

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