[an error occurred while processing this directive]

山东大学学报(医学版) 2013, 51(10) 5-9 DOI: ISSN: 1671-7554 CN: 37-1390/R

基础医学

NF-κB对Aβ1-42诱导神经元KATP亚基Kir6.2/SUR1表达的影响

李艳菊，谭淑慧，夏春凤，张镛，杜怡峰，马国诏

山东大学附属省立医院神经内科， 济南 250021

摘要：

目的 研究神经细胞核转录因子-κB(NF-κB)对β-淀粉样蛋白(Aβ1-42)诱导原代培养皮层及海马胆碱神经元ATP敏感性钾通道(KATP)亚基Kir6.2/SUR1蛋白表达的影响，探讨NF-κB的可能作用。方法 实验分为空白对照组、Aβ1-42组、Aβ1-42+SN50组和SN50组。运用细胞原代培养的方法培养大鼠皮层及海马胆碱神经元并进行鉴定，用Western blotting法检测药物干预后的Kir6.2/SUR1蛋白及NF-κB亚基p65蛋白表达的变化。结果 加入药物处理神经细胞72h后，与空白对照组相比，Aβ1-42组的p65蛋白和Kir6.2/SUR1蛋白表达均显著升高(P均<0.05)；与Aβ1-42组相比，Aβ1-42+SN50组的Kir6.2/SUR1蛋白表达显著降低(P<0.05)。结论 NF-κB信号通路在Aβ1-42诱导神经元Kir6.2/SUR1蛋白的表达中起保护作用。

关键词： 胆碱能神经元；β-淀粉样蛋白；ATP敏感性钾通道；核转录因子-κB

Effects of the nuclear transcription factor-κB on the expression of Kir6.2 and SUR1 subunits of KATP induced by Aβ1-42

LI Yan-ju, TAN Shu-hui, XIA Chun-feng, ZHANG Yong, DU Yi-feng, MA Guo-zhao

Department of Neurology, Shandong Provincial Hospital Affiliated to Shandong University, Jinan 250021， China

Abstract:

Objective To investigate the effects of nuclear transcription factor-κB (NF-κB) on the expression of Kir6.2 and SUR1 subunits of ATP-sensitive potassium channels (KATP) in the primary cultured cortical and hippocampal cholinergic neurons induced by Aβ1-42, and to explore the potential role of NF-κB. Methods It was divided into the control group, Aβ1-42 group, Aβ1-42+SN50 group and SN50 group. Cortical and hippocampal cholinergic neurons of rats were cultured with the primary cell culture methods. The expressive changes of Kir6.2/SUR1 subunits of KATP and p65 of NF-κB were detected by Western blotting. Results Compared with the control group, the p65 subunit of NF-κB and Kir6.2/SUR1 subunits of KATP were significantly increased in the Aβ1-42 group (all P<0.05); compared with the Aβ1-42 group, the Kir6.2/SUR1 subunits of KATP were significantly reduced in the Aβ1-42+SN50 group (P<0.05). Conclusion NF-κB signal pathway plays a protective role in increasing the expression of Kir6.2 and SUR1 subunits of KATP induced by Aβ1-42.

Keywords: Cholinergic neurons; Beta-amyloid peptide; ATP-sensitive potassium channel; Nuclear transcription factor-κB

收稿日期 2012-10-24 修回日期 网络版发布日期

DOI:

基金项目:

国家自然科学基金(30870874,30600202)

通讯作者: 马国诏， E-mail：maguozhao@yahoo.com.cn