



小鼠大脑皮层层特异表达基因天然反义转录物的筛选与鉴定

李萍, 张靖, 李爱花, 王珊, 谈小超, 阴彬, 彭小忠*

中国医学科学院 北京协和医学院 基础医学研究所医学分子生物学国家重点实验室, 北京 100005

Screening and Identification of Natural Antisense Transcript in Mouse Cerebral Cortex

LI Ping, ZHANG Jing, LI Ai-hua, WANG Shan, TAN Xiao-chao, YIN Bin, PENG Xiao-zhong*

National Laboratory of Medical Molecular Biology, Institute of Basic Medical Sciences, CAMS and PUMC, Beijing 100005, China

摘要

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摘要 目的 筛选并鉴定小鼠大脑皮层发育过程中皮层层特异表达的基因是否存在天然反义转录物 (NAT)。方法 对63个小鼠大脑皮层层特异表达的基因进行生物信息学预测, 筛选出31个可能存在NAT的基因, 从小鼠脑组织及神经系统来源的细胞系提取总RNA, 采用RT-PCR方法对筛选阳性基因进行鉴定并克隆到pGEM-T载体中进行测序。结果 31个经生物信息学预测的基因中, 8个为NAT阳性。结论 小鼠大脑皮层发育过程中皮层层特异表达的基因存在NAT, NAT可能通过调控编码基因影响小鼠皮层发育。

关键词: 天然反义转录物 小鼠大脑皮层 筛选 鉴定

Abstract: Objective To screen and identify the possible existence of natural antisense transcript (NAT) within the mouse neocortex. Methods Sixty-three cerebral cortex layer-specific genes were screened by bioinformatics prediction in mice, among which 31 mice with potential NATs were screened. NAT was identified using reverse transcription polymerase chain reaction (RT-PCR) and then cloned in pGEM-T Vector System for sequencing. Results Among 31 genes predicted using bioinformatics, 8 were proved to be NAT positive by RT-PCR. Conclusions NATs exist in the mouse neocortex tissue during the development of cerebral cortex. NATs may influence mouse cortical development by regulating the related coding genes.

Keywords: natural antisense transcript mouse cerebral cortex screening identification

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Corresponding Authors: 彭小忠 Email: peng_xiaozhong@163.com

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