

## 综述

### MicroRNA 与神经系统发育的研究进展

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**摘要:** 神经发育过程受到多种因子的精确调控, 作为调控因子之一的非编码单链小分子RNA 即microRNA 的表达在神经发育过程呈现严格的“时间、空间”特异性, 其异常表达会导致神经发育异常。神经干细胞是神经系统最原始的细胞, 其正常的增殖、分化、迁移是神经系统正常发育的保证, microRNA 对神经干细胞的增殖和分化有调控作用。不同的microRNA 通过影响其靶标mRNA 在神经干细胞的表达及功能发挥, 进而改变神经干细胞的增殖和分化状态, 最终完成对神经系统发育的调控。

**关键词:** microRNA 神经系统发育 神经干细胞 增殖 分化

### MicroRNA in the regulation of nervous system development

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**Abstract:** Several types of molecules, including the small non-coding RNAs, are involved in the precision regulation of neural development. The expression of microRNAs appears in a specific spatial-temporal sequence during the neural development, and abnormal expression may lead to neural dysplasia. MicroRNAs also play important roles in the regulation of cell biological behaviors in terms of survival, proliferation and differentiation. Neural stem cells are the mother cell of the nervous system. The proliferation, differentiation and migration of neural stem cells are tightly controlled so as to generate appropriate number and phenotype of daughter cells to ensure normal neural development. MicroRNAs are involved in the regulation of neural stem cell proliferation and differentiation via affecting the expression and function of their target mRNAs.

**Keywords:** microRNA neural development neural stem cell proliferation differentiation

收稿日期 2012-06-29 修回日期 网络版发布日期

DOI: 10.3969/j.issn.1672-7347.2013.03.018

基金项目:

国家自然科学基金(31070943, 31271151)

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