

哺乳动物神经发育中的Par极性复合体

陈慧灵, 陈晓萍

浙江工业大学生物与环境学院, 杭州 310014

CHEN Hui-Ling, CHEN Xiao-Ping

College of Biological and Environment Engineering, Zhejiang University of Technology, Hangzhou 310014, China

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摘要 哺乳动物的神经发育过程极其复杂, 其形态结构和机能变化受到严格的调控。细胞极性是哺乳动物神经发育中最基本的特征之一, 在其调控因素中, Par极性复合体是研究最多的蛋白质。神经发育过程中Par蛋白的分布与量呈现动态变化, 影响细胞连接建立、细胞极性形成、神经突触发生及神经元迁移, 也影响到神经前体细胞的命运。文章主要从胚胎新皮层神经前体细胞及体外培养神经元角度, 总结了近年在Par极性蛋白的细胞内分布、机能及作用机制方面的研究进展。

关键词: Par复合体 神经发生 细胞极性

Abstract: Mammalian neurogenesis is a highly complicated process with programmed morphology and function evolution. Polarity, a basic characteristic in neurogenesis, is controlled by regulating proteins such as the partition defective (Par) proteins. Par polarity complex is the most investigated Par protein among these polarity proteins. There are developmental dynamic changes during neurogenesis for the protein distribution and content, which are related to the junction establishment, polarity formation, synaptogenesis, and neuronal migration. Moreover, Par complex is considered to affect the developmental fate of neural precursors. This study summarizes the advances of the protein cellular location, function, and mechanism in embryonic neocortex and cultured neuron.

Keywords: Par complex, neurogenesis, cell polarity

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通讯作者 陈晓萍 Email: chxp@zjut.edu.cn





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