生物物理学报(2004) 20(5), 337-343

PDF文档

长时程抑制在学习记忆中的作用及其分子机制的研究进展

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长时程抑制（long term depression ,LTD）是突触可塑性的重要形式之一[1]，并且与学习记忆存在着密切的关系。近十年有关LTD的研究表明：LTD诱导和维持过程所必需的许多分子在进化上具有高度的保守性，多种细胞膜受体、细胞信号转导通路级联成分、基因表达的转录调节因子与学习记忆的调控有关，这些研究结果为我们阐明脑的正常功能，治疗中枢系统神经疾病，提供了新的线索。

ADVANCES IN THE FUNCTIONS AND MOLECULAR MECHANISMS OF LONG-TERM DEPRESSION IN LEARNING AND MEMORY

Long-term depression (LTD) is one of the most important forms in synaptic plasticity, and the reports show that it is related to learning and memory; however, the studies of which is difficult for a long time. In the recent ten years, the molecular approaches have led our further understanding on a gene level of the molecular mechanisms underlying learning and memory. Recently, the studies from Aplysia, Drosophila and rodents show, the molecules and molecular mechanisms essential for the process of learning and memory have been conserved throughout evolution, and that the receptors on the cell membranes, the signal transduction cascades in the cascades and the transcriptional regulation are involved in modulating learning and memory. These achievements provide us with instructive suggestion to molecular mechanisms of many important brain functions and drug design for neural system diseases.

关键词

长时程抑制； 学习； 记忆； 分子机制(long-term depression; learning; memory; molecular mechanism)