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牛磺酸与突触可塑性研究进展

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牛磺酸是哺乳动物中枢神经系统中含量最为丰富的自由氨基酸之一，具有许多认定的神经生理功能。最新的研究结果表明，用牛磺酸孵育脑片可以诱导兴奋性突触传递的持久增强效应。虽然牛磺酸引起的这种持久增强不是由于活动或经验所导致的突触效能的改变，但与反映突触可塑性的长时程增强具有许多共同特征，分享部分共同机制。同时，药理学实验提示，神经元对牛磺酸的摄取可能是长时程增强诱导的关键步骤。

Progress in research of taurine and synaptic plasticity

Taurine is one of the most abundant free amino acids in the mammalian central nervous system and has many putative neurophysiological functions. Recent studies demonstrate that taurine perfusion induces long-lasting potentiation of excitatory synaptic transmission in brain slice. Although taurine-induced long-lasting potentiation does not result from neuronal activities or experience, it has some similarities in cellular mechanisms to long-term potentiation which reflects the synaptic plasticity. Further pharmacological studies suggest that taurine uptake is a key step for the induction of long-term potentiation.

关键词

牛磺酸诱导的持久增强(Taurine-induced long-lasting potentiation); 突触传递的长时程增强(Long-term potentiation); 突触可塑性(Synaptic plasticity)