

# DARPP-32、多巴胺系统与神经元信息整合

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Dopamine and CAMP-regulated Phosphoprotein (DARPP-32)是脑内新纹状体等重要核团的神经元内存在的一种具有多方面信息调节与整合作用的蛋白质。多巴胺、谷氨酸等神经递质与相应受体结合后,使DARPP-32的34-苏氨酸等的磷酸化状态发生改变,继而影响PP-1、PP2B等重要磷酸酯酶的活性,使神经元内从各种途径获取的信息得以整合,神经元的生理功能及其控制的行为发生改变。DARPP-32的功能与多种神经递质及其受体密切相关,其功能可用基因敲除技术进行探究。

## DARPP-32, DOPAMINERGIC PATHWAY AND NEURONAL INFORMATION INTEGRATING

DARPP-32 is a kind of protein that is expressed in neostriatal and other nuclei. This protein is important in regulating and integrating many inputs. When Dopamine, glutamate or some other neurotransmitters binds to their receptors, the phosphorylation or dephosphorylation of DARPP-32 occur at 34-Thr or other three sites affects the activities of phospholipase 1 or 2B, hence all the signals accepted from any pathways can be integrated and the functions of the neuron and behaviors it controlled will be changed. The functions of DARPP-32 are related with many neurotransmitters and their receptors; and it can be studied using 'gene knockout' technique.

### 关键词

DARPP-32; 多巴胺(Dopamine); 神经递质(Neurotransmitters); 受体(Receptor); 信息传递与整合(Signal transmitting and integrating)