

## **Role of cGMP- and cAMP-dependent systems in the effects of nitric oxide on transmitter release and potassium currents in the frog neuromuscular junction**

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### **Abstract**

We studied the molecular mechanisms responsible for nitric oxide (NO)-evoked modulation of the synaptic function in the frog neuromuscular junction using inhibitors of adenylate and guanylate cyclases and analogs of cyclic nucleotides. It was shown that application of an exogenous donor of NO, sodium nitroprusside, decreased transmitter release and increased the amplitude of voltage-dependent potassium current of the nerve endings. Our results indicate that NO regulates transmitter release and potassium current in the frog neuromuscular junction both via cAMP- and cGMP-dependent mechanisms.

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### **Keywords**

Adenylate cyclase, cAMP, cGMP, Guanylate cyclase, Neuromuscular transmission, Nitric oxide