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Modulation of the serotonin system by endocannabinoid signaling.

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Abstract

The cannabinoid CB(1) receptors and their endogenous agonists, endocannabinoids (eCBs), are ubiquitously distributed throughout the central nervous system (CNS), where they play a key role in the regulation of neuronal excitability. As such, CB signaling has been implicated in the regulation of a myriad of physiological functions ranging from feeding homoeostasis to emotional and motivational processes. Ample evidence from behavioral studies also suggests that eCBs are important regulators of stress responses and a deficit in eCB signaling contributes to stress-related disorders such as anxiety and depression. The eCB-induced modulation of stress-related behaviors appears to be mediated, at least in part, through the regulation of the serotoninergic system. In this article, we review the role of eCB signaling in the regulation of the serotoninergic system with special emphasis on the cellular mechanisms by which cannabinoid CB(1) receptors modulate the excitability of dorsal raphe serotonin neurons.

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