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Guest Editorial

Endorphins in Joy, Learning and Memory

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Endorphins are endogenous opioids, neuropeptides, synthesize and stored in the pituitary gland in response to physical and psychological stress. There are three types of endorphins betaendorphins, enkephalins, and dynorphins binds with μ, k and δ receptors respectively situated on the nervous system and immune cells. Betaendorphin is an abundant endorphin, more potent than morphine, produced in the pituitary gland, it is a precursor of POMC (Proopiomelanocortin), a large protein, produced in the anterior pituitary gland in response to CRH (Corticotropin releasing hormone) cleaved to form betaendorphin, ACTH and MSH.

Betaendorphin binds with its μ receptors situated on the central nervous system results in inhibition of GABA, a inhibitory neurotransmitter, release of dopamine, a excitatory neurotransmitter involved in analgesic, cognitive development, memory, self reward, euphoria, addiction, and concentration.

Endorphins produced during music therapy, chocolate consumption, sex, massage, intense physical exercise results in psychological relaxed state known as 'Runner's high', yoga, meditation, Dancing, prayer, acupuncture.

Thorough understanding of endorphins, production, it's mechanisms of actions and it's involvement in joy, learning, and memory helps in better future research strategy.

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