

Data Sheet

Product Name:	β-Endorphin, human	
Cat. No.:	CS-0031553	
CAS No.:	61214-51-5	
Molecular Formula:	C ₁₅₈ H ₂₅₁ N ₃₉ O ₄₆ S	
Molecular Weight:	3464.98	YGGFMTSEKSQTPLVTLFKNAIIKNAYKKGE
Target:	Opioid Receptor	
Pathway:	GPCR/G Protein; Neuronal Signaling	
Solubility:	10 mM in H ₂ O	

BIOLOGICAL ACTIVITY:

β-Endorphin, human, a prominent endogenous peptide, existing in the hypophysis cerebri and hypothalamus, is an agonist of **opioid receptor**, with preferred affinity for **μ-opioid receptor** and **δ-opioid receptor**; β-Endorphin, human exhibits antinociception activity. IC₅₀ & Target: Opioid receptor^[1] **In Vitro:** β-Endorphin, human is an agonist of opioid receptor, with preferred affinity for μ-opioid receptor and δ-opioid receptor. β-Endorphin exhibits anti-nociception activity by stimulating ε-opioid receptor, rather than μ-, δ-, and κ-opioid receptor^[1]. β-Endorphin has anti-nociception activity. Firstly, β-Endorphin combines together with the opioid receptors in hyperalgesia. Further, β-Endorphin suppresses the release of substance P at the level of spinal cord and blocks the conduction of pain on the primary sensory neurons. Moreover, β-Endorphin activates the endogenous analgesia system located in the CNS. In addition, β-Endorphin inhibits the conduction of pain and agitation of nociceptors to exert an analgesic effect^[2].

References:

[1]. Narita M, et al. Evidence for the existence of the beta-endorphin-sensitive "epsilon-opioid receptor" in the brain: the mechanisms of epsilon-mediated antinociception. Jpn J Pharmacol. 1998 Mar;76(3):233-53.

[2]. Luan YH, et al. Action of β-endorphin and nonsteroidal anti-inflammatory drugs, and the possible effects of nonsteroidal anti-inflammatory drugs on β-endorphin. J Clin Anesth. 2017 Feb;37:123-128.

CAIndexNames:

β-Endorphin (sheep), 27-L-tyrosine-31-L-glutamic acid-

SMILES:

[YGGFMTSEKSQTPLVTLFKNAIIKNAYKKGE]

Caution: Product has not been fully validated for medical applications. For research use only.

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