

PRODUCT INFORMATION



β-Endorphin (human) (trifluoroacetate salt)

Item No. 24955

Formal Name:	L-tyrosylglycylglycyl-L-phenylalanyl-L-methionyl-L-threonyl-L-seryl-L-a-glutamyl-L-lysyl-L-seryl-L-glutamyl-L-threonyl-L-prolyl-L-leucyl-L-valyl-L-threonyl-L-leucyl-L-phenylalanyl-L-lysyl-L-asparaginy-L-alanyl-L-isoleucyl-L-isoleucyl-L-lysyl-L-asparaginy-L-alanyl-L-tyrosyl-L-lysyl-L-lysylglycyl-L-glutamic acid, trifluoroacetate salt	H-Tyr-Gly-Gly-Phe-Met-Thr-Ser-Glu-Lys-Ser-Gln-Thr-Pro-Leu-Val-Thr-Leu-Phe-Lys-Asn-Ala-Ile-Ile-Lys-Asn-Ala-Tyr-Lys-Lys-Gly-Glu-OH
Synonym:	β-Lipotropin (61-91)	
MF:	C ₁₅₈ H ₂₅₁ N ₃₉ O ₄₆ S • XCF ₃ COOH	
FW:	3,465.0	• XCF ₃ COOH
Purity:	≥95%	
Supplied as:	A lyophilized powder	
Storage:	-20°C	
Stability:	≥4 years	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

β-Endorphin (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the β-endorphin (human) (trifluoroacetate salt) in water. The solubility of β-endorphin (human) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

β-Endorphin is an endogenous 31-amino acid neuropeptide and opioid receptor agonist that binds to μ-, δ-, and κ-opioid receptors (K_is = 3.73, 5.02, and 32.7 nM, respectively, in COS-1 cells expressing rat receptors).¹ It binds to rat and mouse brain membrane preparations (IC₅₀s = 0.33 and 0.67 nM, respectively) and induces chemotaxis of human monocytes *in vitro* when used at a concentration of 0.1 pM.²⁻⁴ Intracerebroventricular administration of β-endorphin increases the latency to tail withdrawal in response to thermal stimuli in mice with a median antinociceptive dose (AD₅₀) value of 27 pmol per animal.² It also increases preference for the drug-paired place in a conditioned place preference test when administered to rats intracerebroventricularly at a dose of 5 μg.⁵

References

1. Mansour, A., Hoversten, M.T., Taylor, L.P., *et al.* The cloned μ, δ and κ receptors and their endogenous ligands: Evidence for two opioid peptide recognition cores. *Brain Res.* **700(1-2)**, 89-98 (1995).
2. Hammonds, R.G., Jr., Nicolas, P., and Li, C.H. β-Endorphin-(1-27) is an antagonist of β-endorphin analgesia. *Proc. Natl. Acad. Sci. U.S.A.* **81(5)**, 1389-1390 (1984).
3. Garzón, J. and Sánchez-Blázquez, P. ^αN-acetyl derivatives of β-endorphin-(1-31) and -(1-27) regulate the supraspinal antinociceptive activity of different opioids in mice. *Life Sci.* **48(14)**, 1417-1427 (1991).
4. Sacerdote, P. and Panerai, A.E. Analysis of the beta-endorphin structure-related activity on human monocyte chemotaxis: Importance of the N- and C-terminal. *Peptides* **10(3)**, 565-569 (1989).
5. Bals-Kubik, R., Herz, A., and Shippenberg, T.S. β-endorphin-(1-27) is a naturally occurring antagonist of the reinforcing effects of opioids. *Naunyn Schmiedebergs Arch. Pharmacol.* **338(4)**, 392-396 (1988).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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