

PRODUCT INFORMATION



β-Endorphin (1-27) (human) (trifluoroacetate salt)

Item No. 24957

MF:	$C_{139}H_{217}N_{33}O_{40}S \cdot XCF_3COOH$	H-Tyr-Gly-Gly-Phe-Met-Thr-Ser-Glu-Lys-Ser-
FW:	3,022.5	Gln-Thr-Pro-Leu-Val-Thr-Leu-Phe-Lys-Asn-
Purity:	≥95%	Ala-Ile-Ile-Lys-Asn-Ala-Tyr-OH
Supplied as:	A lyophilized powder	
Storage:	-20°C	
Stability:	≥4 years	• XCF ₃ COOH

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

Laboratory Procedures

β-Endorphin (1-27) (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the β-endorphin (1-27) (human) (trifluoroacetate salt) in the solvent of choice which should be purged with an inert gas. β-Endorphin (1-27) (human) (trifluoroacetate salt) is soluble in the organic solvent DMSO, at a concentration of approximately 1 mg/ml.

Description

β-Endorphin (1-27) is an endogenous peptide that binds to μ-, δ-, and κ-opioid receptors (K_D s = 5.31, 6.17, and 39.82 nM, respectively, in COS-1 cells expressing rat receptors).¹ It binds to rat and mouse brain membrane preparations (IC_{50} s = 1.1 and 5.7 nM, respectively) and induces chemotaxis of human monocytes *in vitro* when used at a concentration of 1 nM.²⁻⁴ Intracerebroventricular administration of β-endorphin (1-27) increases the latency to tail withdrawal in response to thermal stimulation in mice with a median antinociceptive dose (AD_{50}) of 1,500 pmol per animal.² It inhibits antinociception induced by β-endorphin (Item Nos. 24153 | 24955) in mice in response to thermal stimuli when administered at a dose of 65 pmol per animal. In rats, β-endorphin (1-27) does not affect drug-associated place preference when administered at doses up to 20 μg, i.c.v., but inhibits β-endorphin-induced place preference when administered at a dose of 10 μg per animal.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. ³H-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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM