

PRODUCT INFORMATION



Dermorphin (acetate)

Item No. 31607

Formal Name: (S)-1-(L-tyrosyl-D-alanyl-L-phenylalanylglycyl-L-tyrosyl)-N-((S)-1-amino-3-hydroxy-1-oxopropan-2-yl)pyrrolidine-2-carboxamide, acetate

MF: $C_{40}H_{50}N_8O_{10} \cdot XC_2H_4O_2$

FW: 802.9

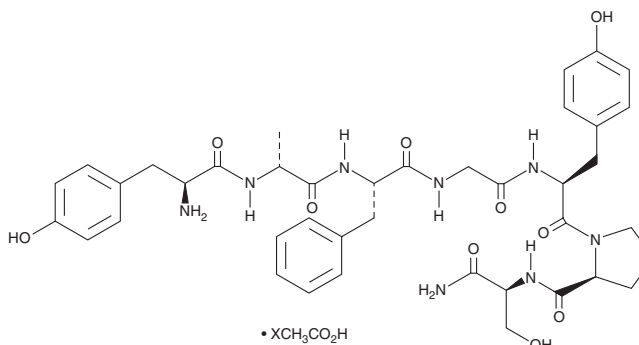
Purity: $\geq 95\%$

UV/Vis.: λ_{max} : 224 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥ 2 years



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

Laboratory Procedures

Dermorphin (acetate) is supplied as a crystalline solid. A stock solution may be made by dissolving the dermorphin (acetate) in the solvent of choice, which should be purged with an inert gas. Dermorphin (acetate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of dermorphin (acetate) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of dermorphin (acetate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dermorphin (acetate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Dermorphin is an opioid peptide originally isolated from the skin of South American frogs (*Ph. sauvagei*).¹ It binds to μ -opioid receptors ($K_i = 0.54$ nM) and is selective for μ - over δ -opioid receptors in radioligand binding assays ($K_i = 929$ nM). *In vivo*, dermorphin (1.9 $\mu\text{mol/kg}$, i.p.) inhibits noxious stimuli-induced neuronal firing in the nucleus lateralis anterior and ventrobasal complex in rats.² It inhibits the electrical stimulation-induced C fiber response in rat dorsal horn nociceptive neurons. Dermorphin (10-120 pmol/animal, i.c.v.) delays gastric emptying, inhibits gastric acid secretion, and slows colonic motility in pylorus-ligated rats.

References

1. Usenko, A.B., Emel'yanova, T.G., and Mlasoedov, N.F. Dermorphins are natural opioids with an unique primary structure that determines their biological specificity. *Biol. Bull. Russ. Acad. Sci.* **29**, 154-164 (2002).
2. Melchiorri, P. and Negri, L. The dermorphin peptide family. *Gen. Pharmacol.* **27(7)**, 1099-1107 (1996).

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