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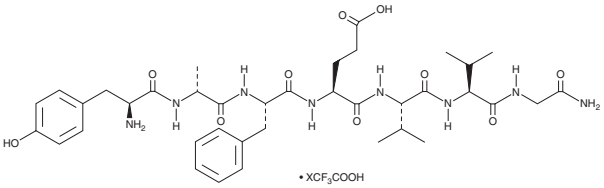
PRODUCT INFORMATION

Deltorphin II (trifluoroacetate salt)

Item No. 34691

Formal Name:	L-tyrosyl-D-alanyl-L-phenylalanyl-L-α-glutamyl-L-valyl-L-valyl-glycinamide, trifluoroacetate salt
Synonyms:	DADELT II, [D-Ala^2]Deltorphin II, [D-Ala^2, Glu^4]Deltorphin II, Tyr-D-Ala-Phe-Glu-Val-Val-Gly-NH_2
MF:	$C_{38}H_{54}N_8O_{10} \bullet XCF_3COOH$
FW:	782.9
Purity:	≥98%
Supplied as:	A 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

Deltorphin II (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the deltorphin II (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Deltorphin II (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of deltorphin II (trifluoroacetate salt) in these solvents is approximately 1 and 15 mg/ml, respectively. Deltorphin II (trifluoroacetate salt) is also slightly soluble in ethanol.

Deltorphin II (trifluoroacetate salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, deltorphin II (trifluoroacetate salt) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Deltorphin II (trifluoroacetate salt) has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Deltorphin II is a peptide agonist of δ_2-opioid receptors.[1,2] It is selective for δ-opioid receptors over μ- and κ-opioid receptors in radioligand bindings assays (K_is = 0.0033, >1, and >1 μM, respectively) and induces [^{35}S]GTPγS binding in mouse brain membrane preparations (EC_{50} = 0.034 μM). Deltorphin II (0.12 mg/kg) decreases the infarction zone:risk zone ratio in a rat model of myocardial ischemia-reperfusion injury induced by coronary occlusion, an effect that can be reversed by the δ_2-opioid receptor antagonist naltriben but not the δ_1-opioid receptor antagonist BNTX.[3] Intrathecal administration of deltorphin II (15 μg/animal) increases latency to withdraw in the paw pressure and tail-flick tests in rats.[4]

References

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2. Scherrer, G., Befort, K., Contet, C., *et al*. The delta agonists DPDPE and deltorphin II recruit predominantly mu receptors to produce thermal analgesia: A parallel study of mu, delta and combinatorial opioid receptor knockout mice. *Eur. J. Neurosci*. **19(8)**, 2239-2248 (2004).
3. Maslov, L.N., Barzakh, E.I., Krylatov, A.V., *et al*. Opioid peptide deltorphin II simulates the cardioprotective effect of ischemic preconditioning: role of δ_2-opioid receptors, protein kinase C, and K_{ATP} channels. *Bull. Exp. Biol. Med*. **149(5)**, 591-593 (2010).
4. Labuz, D., Toth, G., Machelska, H., *et al*. Antinociceptive effects of isoleucine derivatives of deltorphin I and deltorphin II in rat spinal cord: A search for selectivity of delta receptor subtypes. *Neuropeptides* **32(6)**, 511-517 (1998).

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