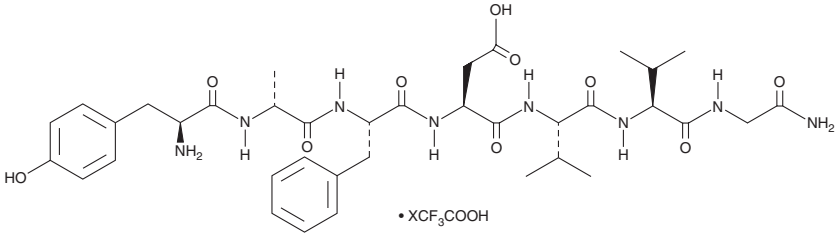
PRODUCT INFORMATION

Deltorphin C (trifluoroacetate salt)

Item No. 30050

Formal Name:	L-tyrosyl-D-alanyl-L-phenylalanyl-L-α-aspartyl-L-valyl-L-valyl-glycinamide, trifluoroacetate salt
Synonyms:	Deltorphin I, [D-Ala$_2$]Deltorphin
MF:	$C_{37}H_{52}N_8O_{10} \bullet XCF_3COOH$
FW:	768.9
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



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

Laboratory Procedures

Deltorphin C (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the deltorphin C (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Deltorphin C (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of deltorphin C (trifluoroacetate salt) in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Deltorphin C (trifluoroacetate salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, deltorphin C (trifluoroacetate salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Deltorphin C (trifluoroacetate salt) has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Deltorphin C is a peptide agonist of δ-opioid receptors (K_i = 0.15 nM) that has been found in *Phyllomedusa bicolor*.[1] It is selective for δ-opioid receptors over μ- and κ-opioid receptors. It induces δ-opioid receptor translocation from large dense-core vesicles to the cell surface and induces calcitonin gene-related peptide (CGRP) release in isolated mouse dorsal root ganglion (DRG) cells when used at concentrations of 0.1 and 1 μM, respectively, effects that can be blocked with the δ-opioid receptor antagonist naltrindole (Item No. 9000705).[2] Intrathecal administration of deltorphin C (0.15, 1.5, and 15 μg/animal) increases latency to withdraw in the paw pressure and tail-flick tests in rats.[3]

References

1. Erspamer, V., Melchiorri, P., Falconieri-Erspamer, G., *et al.* Deltorphins: A family of naturally occurring peptides with high affinity and selectivity for delta opioid binding sites. *Proc. Natl. Acad. Sci. USA* **86(13)**, 5188-5192 (1989).
2. Bao, L., Jin, S.-X., Zhang, C., *et al.* Activation of delta opioid receptors induces receptor insertion and neuropeptide secretion. *Neuron* **37(1)**, 121-133 (2003).
3. 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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