

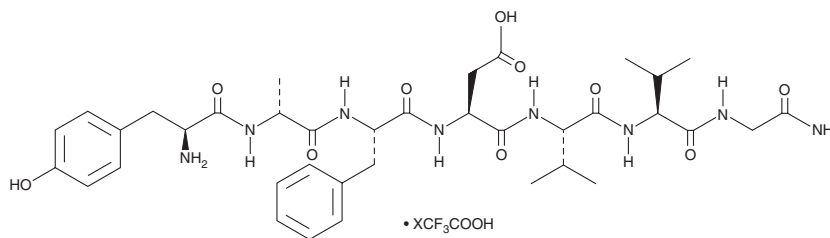
# PRODUCT INFORMATION



## Deltorphin C (trifluoroacetate salt)

Item No. 30050

**Formal Name:** L-tyrosyl-D-alanyl-L-phenylalanyl-L- $\alpha$ -aspartyl-L-valyl-L-valyl-glycinamide, trifluoroacetate salt  
**Synonyms:** Deltorphin I, [D-Ala<sub>2</sub>]Deltorphin  
**MF:** C<sub>37</sub>H<sub>52</sub>N<sub>8</sub>O<sub>10</sub> • XCF<sub>3</sub>COOH  
**FW:** 768.9  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 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  $\delta$ -opioid receptors ( $K_i = 0.15$  nM) that has been found in *Phyllomedusa bicolor*.<sup>1</sup> It is selective for  $\delta$ -opioid receptors over  $\mu$ - and  $\kappa$ -opioid receptors. It induces  $\delta$ -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  $\mu$ M, respectively, effects that can be blocked with the  $\delta$ -opioid receptor antagonist naltrindole (Item No. 9000705).<sup>2</sup> Intrathecal administration of deltorphin C (0.15, 1.5, and 15  $\mu$ g/animal) increases latency to withdraw in the paw pressure and tail-flick tests in rats.<sup>3</sup>

### 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).

#### 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