

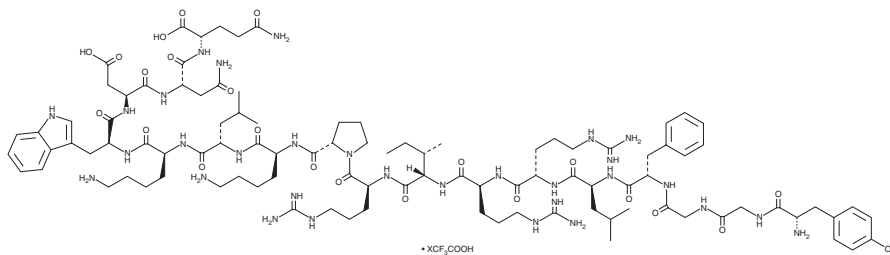
# PRODUCT INFORMATION



## Dynorphin A (trifluoroacetate salt)

Item No. 18169

**Formal Name:** dynorphin A, trifluoroacetate salt  
**Synonym:** Dynorphin A (1-17)  
**MF:** C<sub>99</sub>H<sub>155</sub>N<sub>31</sub>O<sub>23</sub> • XCF<sub>3</sub>COOH  
**FW:** 2,147.5  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 279 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Dynorphin A (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the dynorphin A (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Dynorphin A (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of dynorphin A (trifluoroacetate salt) 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 dynorphin A (trifluoroacetate salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dynorphin A (trifluoroacetate salt) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Dynorphin A is a heptadecapeptide released from the cleavage of prodynorphin and found widely distributed in the central nervous system, where it is implicated in antinociceptive functions.<sup>1-3</sup> It acts as an opioid receptor agonist with nanomolar binding affinity to the three major isotypes κ, μ, and δ (K<sub>i</sub>s = 0.5-1 nM) and has also been shown to activate human ORL1, a novel opioid receptor-like receptor (K<sub>i</sub> = 386 nM).<sup>4</sup>

### References

1. Berman, Y., Juliano, L., and Devi, L.A. Specificity of the dynorphin-processing endoprotease: Comparison with prohormone convertases. *J. Neurochem.* **72**(5), 2120-2196 (1999).
2. Janecka, A., Fichna, J., and Janecki, T. Opioid receptors and their ligands. *Curr. Top. Med. Chem.* **4**(1), 1-17 (2004).
3. Dhawan, B.N., Cesselin, F., Raghbir, R., et al. International Union of Pharmacology. XII. Classification of opioid receptors. *Pharmacol. Rev.* **48**(4), 567-592 (1996).
4. Zhang, S., Tong, Y., Tian, M., et al. Dynorphin A as a potential endogenous ligand for four members of the opioid receptor gene family. *J. Pharmacol. Exp. Ther.* **286**(1), 136-141 (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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