# PRODUCT INFORMATION

## DAMGO (trifluoroacetate salt)

*Item No. 21553*

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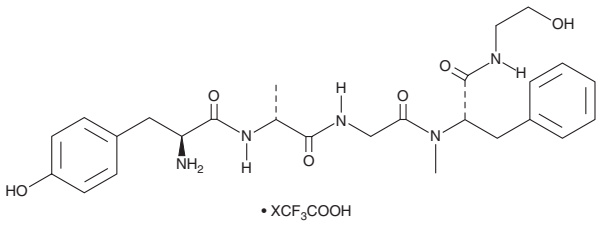
| **Formal Name:** | L-tyrosyl-D-alanylglycyl-N-(2-hydroxyethyl)-N$^{\alpha}$-methyl-L-phenylalaninamide, 2,2,2-trifluoroacetate |
| **Synonyms:** | [D-Ala$^2$, N-Me-Phe$^4$, Gly$^5$-ol]-Enkephalin, DAGO, NIH 10891, RX-783006 |
| **MF:** | $C_{26}H_{35}N_5O_6 \bullet XCF_3COOH$ |
| **FW:** | 513.6 |
| **Purity:** | ≥98% |
| **Supplied as:** | A 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

DAMGO (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the DAMGO (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. DAMGO (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DAMGO (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 DAMGO (trifluoroacetate salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of DAMGO (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

DAMGO is a selective peptide agonist of the μ-opioid receptor ($K_i$s = 1.18, 1,430, and 213 nM for human μ-, δ-, and κ-opioid receptors, respectively).[1,2] DAMGO displays higher efficacy than morphine (Item No. ISO60147) for μ-opioid-induced nociception in rats.[3,4]

### References


1. Hirning, L.D., Mosberg, H.I., Hurst, R., *et al.* Studies *in vitro* with ICI 174,864, [D-Pen$^2$, D-Pen$^5$]-enkephalin (DPDPE) and [D-Ala$^2$, NMePhe$^4$, Gly-ol]-enkephalin (DAGO). *Neuropeptides* **5(4-6)**, 383-386 (1985).
2. Zhao, G.-M., Qian, X., Schiller, P.W., *et al.* Comparison of [Dmt$^1$]DALDA and DAMGO in binding and G protein activation at μ, δ, and κ opioid receptors. *J. Pharmacol. Exp. Ther.* **307(3)**, 947-954 (2003).
3. Fang, F.G., Haws, C.M., Drasner, K., *et al.* Opioid peptides (DAGO-enkephalin, dynorphin A(1-13), BAM 22P) microinjected into the rat brainstem: Comparison of their antinociceptive effect and their effect on neuronal firing in the rostral ventromedial medulla. *Brain Res.* **501(1)**, 116-128 (1989).
4. Kelly, E. Efficacy and ligand bias at the μ-opioid receptor. *Br. J. Pharmacol.* **169(7)**, 1430-1446 (2013).





**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