

PRODUCT INFORMATION



CTOP (trifluoroacetate salt)

Item No. 27377

Formal Name: D-phenylalanyl-L-cysteinyl-L-tyrosyl-D-tryptophyl-L-ornithyl-L-threonyl-3-mercapto-L-valyl-L-threoninamide-cyclic (2→7)-disulfide, trifluoroacetate salt

Synonym: Phe-Cys-Tyr-Trp-Orn-Thr-Pen-Thr

MF: C₅₀H₆₇N₁₁O₁₁S₂ • XCF₃COOH

FW: 1,062.3

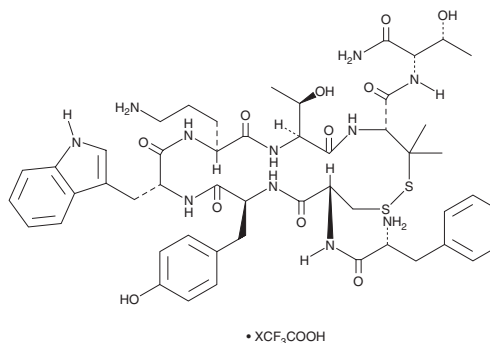
Purity: ≥98%

UV/Vis.: λ_{max}: 220, 269, 386 nm

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

CTOP (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the CTOP (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. CTOP (trifluoroacetate salt) is slightly soluble in ethanol.

CTOP (trifluoroacetate salt) is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

CTOP is a peptide antagonist of the μ -opioid receptor ($IC_{50} = 2.8$ nM).¹ It is selective for μ -opioid receptors over δ -opioid receptors ($IC_{50} = 13,500$ nM) and somatostatin receptors ($IC_{50} = 24,000$ nM). CTOP inhibits the antinociceptive effect of morphine in the tail flick test in mice ($ED_{50} = 0.018$ nmol) and reverses morphine-induced increases in locomotor activity ($ED_{50} = 0.02$ nmol).² It also induces withdrawal symptoms in a mouse model of chronic, but not acute, morphine dependence.

References

1. Pelton, J.T., Kazmierski, W., Gluya, K., *et al.* Design and synthesis of conformationally constrained somatostatin analogues with high potency and specificity for μ opioid receptors. *J. Med. Chem.* **29**(11), 2370-2375 (2013).
2. Gulya, K., Kriván, M., Nyolczas, N., *et al.* Central effects of the potent and highly selective μ opioid antagonist D-Phe-Cys-Tyr-D-Trp-Orn-Thr-Pen-Thr-NH₂ (CTOP) in mice. *Eur. J. Pharmacol.* **150**(3), 355-360 (1988).

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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