

# PRODUCT INFORMATION



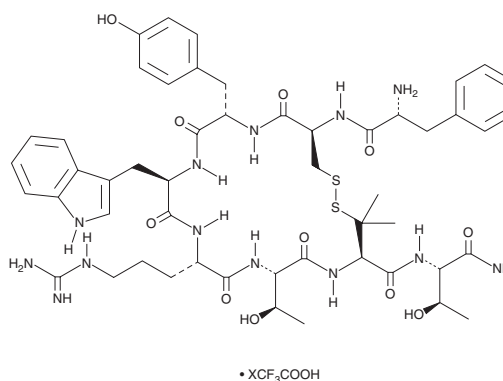
## CTAP (trifluoroacetate salt)

Item No. 14959

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

**MF:** C<sub>51</sub>H<sub>69</sub>N<sub>13</sub>O<sub>11</sub>S<sub>2</sub> • XCF<sub>3</sub>COOH

**FW:** 1,104.3  
**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

CTAP (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the CTAP (trifluoroacetate salt) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

CTAP is a water soluble, cyclic octapeptide which acts as a receptor antagonist that is selective for the  $\mu$  opioid receptor ( $IC_{50} = 3.5$  nM) over the  $\delta$  receptor ( $IC_{50} = 4,500$  nM).<sup>1</sup> It is a poor antagonist of the somatostatin receptor ( $IC_{50} = 14.3$   $\mu$ M).<sup>1</sup> CTAP is at least 10-fold more potent than naltrexone as an antagonist of diverse compounds which have antinociceptive effects through the  $\mu$  opioid receptor.<sup>2</sup> It resists enzymatic metabolism in the blood and enters the brain and cerebrospinal fluid.<sup>3</sup>

### 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  $\mu$  opioid receptors. *J. Med. Chem.* **29**(11), 2370-2375 (2013).
2. Sterious, S.N. and Walker, E.A. Potency differences for D-Phe-Cys-Tyr-D-Trp-Arg-Thr-Pen-Thr-NH<sub>2</sub> as an antagonist of peptide and alkaloid  $\mu$ -agonists in an antinociception assay. *J. Pharmacol. Exp. Ther.* **304**(1), 301-309 (2003).
3. Abbruscato, T.J., Thomas, S.A., Hruby, V.J., *et al.* Blood-brain barrier permeability and bioavailability of a highly potent and  $\mu$ -selective opioid receptor antagonist, CTAP: Comparison with morphine. *J. Pharmacol. Exp. Ther.* **280**(1), 402-409 (1997).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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