bio-techne
TOCRIS

Print Date: Jul 4th 2025

Certificate of Analysis

www.tocris.com

Product Name: **CTAP** **Catalog No.: 1560** **Batch No.: 13**

CAS Number: 103429-32-9

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{51}H_{69}N_{13}O_{11}S_2$

Batch Molecular Weight: 1104.32

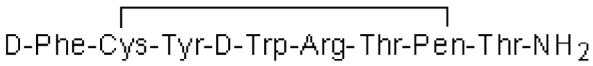
Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows 97.6% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys		
Arg	1.00	1.02	Met		
Asx			Phe	1.00	1.04
Cys	1.00	0.35	Pro		
Glx			Ser		
Gly			Thr	2.00	1.06
His			Trp	1.00	0.04
Ile			Tyr	1.00	0.93
Leu			Val		

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Product Name: CTAP **Catalog No.:** 1560 **Batch No.:** 13

CAS Number: 103429-32-9

Description:

CTAP is a potent and selective μ opioid receptor antagonist (IC_{50} = 3.5 nM). Displays > 1200-fold selectivity over δ opioid and somatostatin receptors. Brain penetrant and active in vivo.

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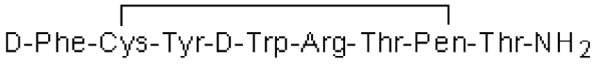

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Counter Ion: TFA

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such Cys, Met,Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 μm filter to remove potential bacterial contamination whenever possible.

References:

Abbruscato *et al* (1997) Blood-brain barrier permeability and bioavailability of a highly potent and μ-selective opioid receptor antagonist, CTAP: comparison with mor. J.Pharmacol.Exp.Ther. ***280*** 402. PMID: 8996221.

Kramer *et al* (1989) Novel peptidic mu opioid antagonists: pharmacologic characterization *in vitro* and *in vivo*. J.Pharmacol.Exp.Ther. ***249*** 544. PMID: 2566679.

Pelton *et al* (1986) Design and synthesis of conformationally constrained somatostatin analogues with high potency and specificity for μ opioid receptors. J.Med.Chem. ***29*** 2370. PMID: 2878079.