

Certificate of Analysis

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Product Name: Desmopressin

Catalog No.: 3396

Batch No.: 4

CAS Number: 16679-58-6

EC Number: 240-726-7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₆H₆₄N₁₄O₁₂S₂
Batch Molecular Weight: 1069.22
Physical Appearance: White lyophilised solid
Net Peptide Content: 86%
Counter Ion: Acetate
Solubility: Soluble to 4 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Mpr-Tyr-Phe-Gln-Asn-Cys-Pro-D-Arg-Gly-NH₂

2. ANALYTICAL DATA

HPLC: Shows 97% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys		
Arg	1.00	1.07	Met		
Asx	1.00	0.99	Phe	1.00	0.97
Cys	1.00	Detected	Pro	1.00	0.98
Glx	1.00	1.03	Ser		
Gly	1.00	1.01	Thr		
His			Trp		
Ile			Tyr	1.00	0.97
Leu			Val		

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Desmopressin is a synthetic vasopressin analog that acts as an agonist at V_{1B} and V₂ receptors (EC₅₀ values are 11.4 and 23.9 nM and K_i values are 5.84 and 65.9 nM respectively). Prevents polycystic kidney disease formation and exhibits antidiuretic, antiproliferative, hemostatic and hypotensive activity in vivo.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:

Mpr-Tyr-Phe-Gln-Asn-Cys-Pro-D-Arg-Gly-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 4 mg/ml in water

This product is supplied as a lyophilized solid and may 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.

Net Peptide Content: 86% (Remaining weight made up of counterions and residual water).

Counter Ion: Acetate

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 as 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:

Torres (2008) Vasopressin antagonists in polycystic kidney disease. *Semin.Nephrol.* **28** 306. PMID: 18519091.

Gomez et al (2006) Desmopressin and other synthetic vasopressin analogues in cancer treatment. *Bull.Cancer* **93** E7. PMID: 16517412.

Saito et al (1997) 1-Desamino-8-D-arginine vasopressin (DDAVP) as an agonist on V_{1b} vasopressin receptor. *Biochem.Pharmacol.* **53** 1711. PMID: 9264324.

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