

Certificate of Analysis

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Product Name: d[Leu⁴,Lys⁸]-VP

Catalog No.: 3127

Batch No.: 4

CAS Number: 42061-33-6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₇H₆₇N₁₁O₁₁S₂
Batch Molecular Weight: 1026.2
Physical Appearance: White lyophilised solid
Net Peptide Content: 83%
Counter Ion: TFA
Solubility: Soluble to 2 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Mpr-Tyr-Phe-Leu-Asn-Cys-Pro-Lys-Gly-NH₂

2. ANALYTICAL DATA

HPLC: Shows 98% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Amino Acid Actual		
Ala			Lys	1.00	1.00
Arg			Met		
Asx	1.00	0.95	Phe	1.00	0.99
Cys	1.00	Detected	Pro	1.00	0.99
Glx			Ser		
Gly	1.00	1.00	Thr		
His			Trp		
Ile			Tyr	1.00	1.01
Leu	1.00	1.02	Val		

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

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Product Name: d[Leu⁴,Lys⁸]-VP

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Description:

Selective vasopressin V_{1B} receptor agonist (K_i values are 0.16, 64, 100 and 3800 nM for V_{1B}, oxytocin, V₂ and V_{1A} receptors respectively). Displays weak antidiuretic, vasopressor and in vitro oxytocic activities.

Physical and Chemical Properties:

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Batch Molecular Weight: 1026.2

Physical Appearance: White lyophilised solid

Peptide Sequence:

Mpr-Tyr-Phe-Leu-Asn-Cys-Pro-Lys-Gly-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 2 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: 83% (Remaining weight made up of counterions and residual water).

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 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:

Pena et al (2007) Pharmacological and physiological characterization of d[Leu⁴,Lys⁸]vasopressin, the first V_{1b}-selective agonist for rat vasopressin/oxytocin receptors. *Endocrinology* **148** 4136. PMID: 17495006.

Pena et al (2007) Design and synthesis of the first selective agonists for the rat vasopressin V_{1b} receptor: based on modifications of deamino-[cys¹]arginine vasopressin at positions 4 and 8. *J.Med.Chem.* **50** 835. PMID: 17300166.

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