

Certificate of Analysis

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Product Name: DPDPE
CAS Number: 88373-73-3

Catalog No.: 1431 **Batch No.:** 13

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₀H₃₉N₅O₇S₂
Batch Molecular Weight: 645.79
Physical Appearance: White lyophilised solid
Net Peptide Content: 83%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence:

 Tyr-D-Pen-Gly-Phe-D-Pen

2. ANALYTICAL DATA

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

3. AMINO ACID ANALYSIS DATA

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

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

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Product Name: DPDPE

Catalog No.: 1431

Batch No.: 13

CAS Number: 88373-73-3

Description:

Prototypical selective δ -opioid receptor agonist peptide. Inhibits electrically stimulated contraction of mouse vas deferens in vitro (EC_{50} = 5.2 nM), and is antinociceptive in vivo.

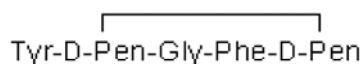
Physical and Chemical Properties:

Batch Molecular Formula: $C_{30}H_{39}N_5O_7S_2$

Batch Molecular Weight: 645.79

Physical Appearance: White lyophilised solid

Peptide Sequence:



Storage: Desiccate at -20°C

Solubility & Usage Info:

Soluble to 1 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 μ m filter to remove potential bacterial contamination whenever possible.

References:

Fraser *et al* (2000) Supraspinal antinociceptive response to [D-Pen^{2,5}]-enkephalin (DPDPE) is pharmacologically distinct from that to other δ -agonists in the rat. *J.Pharmacol.Exp.Ther.* **295** 1135. PMID: 11082450.

Chandrakumar *et al* (1992) Analogs of the δ opioid receptor selective cyclic peptide [2-D-penicillamine,5-D-penicillamine]-enkephalin: 2',6'-dimethyltyrosine and Gly³-Phe⁴ amide bond isostere substitutions. *J.Med.Chem.* **35** 2928. PMID: 1323677.

Clark *et al* (1986) [D-Pen²,D-Pen⁵]enkephalin (DPDPE): a δ -selective enkephalin with low affinity for μ_1 opiate binding sites. *Eur.J.Pharmacol.* **128** 303. PMID: 3025000.

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