bio-techne
TOCRIS

Print Date: Feb 1st 2024

Certificate of Analysis

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Product Name: **DPDPE** **Catalog No.: 1431** **Batch No.: 16**

CAS Number: 88373-73-3

1. PHYSICAL AND CHEMICAL PROPERTIES

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

Batch Molecular Weight: 645.79

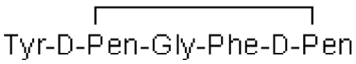
Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows 98.7% 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	0.73
Leu			Val		

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Name: **DPDPE** **Catalog No.: 1431** **16**

CAS Number: 88373-73-3

Description:

DPDPE is a 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.

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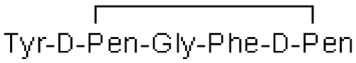

Storage: Store at -20°C

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.

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:

Fraser *et al* (2000) Supraspinal antinociceptive response to [D-Pen^{2,5}]-enkephalin (DPDPE) is pharmacologically distince 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 Gly^3-Phe^4 amide bond isostere substitutions. J.Med.Chem. ***35*** 2928. PMID: 1323677.

Clark *et al* (1986) [D-Pen^2,D-Pen^5]enkephalin (DPDPE): a δ-selective enkephalin with low affinity for μ_1 opiate binding sites. Eur.J.Pharmacol. ***128*** 303. PMID: 3025000.