

Certificate of Analysis

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Product Name: DAMGO

Catalog No.: 1171

Batch No.: 34

CAS Number: 78123-71-4

IUPAC Name: [D-Ala², NMe-Phe⁴, Gly-ol⁶]-enkephalin

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₆H₃₅N₅O₆
Batch Molecular Weight: 513.7
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 2 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Tyr-D-Ala-Gly-NMe-Phe-Gly-ol

2. ANALYTICAL DATA

HPLC: Shows 98.3% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala		1.00	0.96	Lys			
Arg				Met			
Asx				Phe			
Cys				Pro			
Glx				Ser			
Gly		1.00	1.00	Thr			
His				Trp			
Ile				Tyr	1.00	1.04	
Leu				Val			

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

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CAS Number: 78123-71-4

IUPAC Name: [D-Ala², NMe-Phe⁴, Gly-ol⁵]-enkephalin

Description:

DAMGO is a highly selective peptide agonist for the μ opioid receptor.

Physical and Chemical Properties:

Batch Molecular Formula: C₂₆H₃₅N₅O₆

Batch Molecular Weight: 513.7

Physical Appearance: White lyophilised solid

Peptide Sequence:

Tyr-D-Ala-Gly-NMe-Phe-Gly-ol

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.

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:

Fang *et al* (1989) Opioid receptors (DAGO-enkephalin, dynorphin A(1-13), BAM 22P) microinjected into the rat brainstem: comparison of their antinociceptive effect and their effect on neuronal firing in the rostral ventromedial medulla. *Brain Res.* **501** 116. PMID: 2572306.

Hirning *et al* (1985) Studies in vitro with ICI 174,864, [D-Pen²,D-Pen⁵]-enkephalin (DPDPE) and [D-Ala²,NMePhe⁴,Gly-ol]-enkephalin (DAGO). *Neuropeptides* **5** 383. PMID: 2987739.

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