

Certificate of Analysis

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Product Name: DADLE
CAS Number: 63631-40-3

Catalog No.: 3790 **Batch No.:** 2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₉H₃₉N₅O₇
Batch Molecular Weight: 569.66
Physical Appearance: White lyophilised solid
Net Peptide Content: 73%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Tyr-D-Ala-Gly-Phe-D-Leu

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	1.00	0.98	Lys				
Arg			Met				
Asx			Phe	1.00	1.05		
Cys			Pro				
Glx			Ser				
Gly	1.00	1.03	Thr				
His			Trp				
Ile			Tyr	1.00	0.95		
Leu	1.00	0.92	Val				

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

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Product Name: DADLE

Catalog No.: 3790

Batch No.: 2

CAS Number: 63631-40-3

Description:

Prototypical δ -opioid receptor agonist that also displays activity at the μ -opioid receptor. Displays antinociceptive activity in vivo.

Physical and Chemical Properties:

Batch Molecular Formula: C₂₉H₃₉N₅O₇

Batch Molecular Weight: 569.66

Physical Appearance: White lyophilised solid

Peptide Sequence:

Tyr-D-Ala-Gly-Phe-D-Leu

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

Net Peptide Content: 73% (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:

Ke et al (2009) Delta opioid agonist [D-Ala², D-Leu⁵] enkephalin (DADLE) reduced oxygen-glucose deprivation caused neuronal injury through the MAPK pathway. *Brain Res.* **1292** 100. PMID: 19619518.

Mulder et al (1991) Pharmacological profile of various κ -agonists at κ -, μ - and δ -opioid receptors mediating presynaptic inhibition of neurotransmitter release in the rat brain. *Br.J.Pharmacol.* **102** 518. PMID: 1673074.

Suh and Tseng (1990) Different types of opioid receptors mediating analgesia induced by morphine, DAMGO, DPDPE, DADLE and beta-endorphin in mice. *Naunyn-Schmied.Arch.Pharmacol.* **342** 67.

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