

Certificate of Analysis

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Product Name: Melanocyte-stimulating hormone release inhibiting factor **Catalog No.:** 1929 **Batch No.:** 1
CAS Number: 2002-44-0 **EC Number:** 217-902-7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₂₄N₄O₃
Batch Molecular Weight: 284.36
Physical Appearance: White lyophilised solid
Net Peptide Content: 93%
Storage: Desiccate at -20°C
Peptide Sequence: Pro-Leu-Gly-NH₂

2. ANALYTICAL DATA

HPLC: Shows >95% purity

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys		
Arg			Met		
Asx			Phe		
Cys			Pro	1.00	1.03
Glx			Ser		
Gly	1.00	1.00	Thr		
His			Trp		
Ile			Tyr		
Leu	1.00	0.97	Val		

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

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CAS Number: 2002-44-0 **EC Number:** 217-902-7

Description:

Inhibitor of melanocyte-stimulating hormone (MSH) release. Blocks the release of α -MSH, increases brain dopamine levels and antagonizes physiological and behavioral opioid effects in vivo.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

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Pro-Leu-Gly-NH₂

Storage: Desiccate at -20°C

Solubility & Usage Info:

Most peptides are soluble in distilled water. If the peptide does not completely dissolve addition of 0.1M acetic acid (those containing Arg, Lys, His) or 0.1M ammonia (those containing Asp, Glu) may help. Occasionally 10% DMSO or DMF may be required for extremely insoluble peptides. In addition to these measures sonification may also be helpful.

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: 93% (Remaining weight made up of counterions and residual water).

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:

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Pugsley and Lippmann (1977) Synthetic melanocyte stimulating hormone release inhibiting factor (MIF). Part III: effect of L-prolyl-N-methyl-D-leucyl-glycinamide and MIF on biogenic amine turnover. Arzneimittelforschung **27** 2293. PMID: 23796.

Mishra et al (1983) Pharmacology of L-Prolyl-L-Leucyl-Glycinamide (PLG): a review. Methods Find.Exp.Clin.Pharmacol. **5** 203. PMID: 6136640.

Kavaliers and Hirst (1986) Inhibitory influences of FMRFamide and PLG on stress-induced opioid analgesia and activity. Brain Res. **372** 370. PMID: 2871903.

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