

## Certificate of Analysis

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**Product Name:** [Nle<sup>4</sup>,D-Phe<sup>7</sup>]- $\alpha$ -MSH

**Catalog No.:** 3013

**Batch No.:** 6

**CAS Number:** 75921-69-6

### 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>78</sub> H <sub>111</sub> N <sub>21</sub> O <sub>19</sub>
<b>Batch Molecular Weight:</b>	1646.86
<b>Physical Appearance:</b>	White lyophilised solid
<b>Net Peptide Content:</b>	79.5%
<b>Counter Ion:</b>	TFA
<b>Solubility:</b>	Soluble to 0.60 mg/ml in water
<b>Storage:</b>	Desiccate at -20°C
<b>Peptide Sequence:</b>	Ac-Ser-Tyr-Ser-Nle-Glu-His-D-Phe-Arg-Trp-Gly-Lys-Pro-Val-NH <sub>2</sub>

### 2. ANALYTICAL DATA

<b>HPLC:</b>	Shows 97.9% purity
<b>Mass Spectrum:</b>	Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala				Lys	1.00	0.99	
Arg	1.00	0.99		Met			
Asx				Phe	1.00	0.97	
Cys				Pro	1.00	1.00	
Glx	1.00	1.00		Ser	2.00	1.63	
Gly	1.00	0.98		Thr			
His	1.00	0.99		Trp	1.00	0.53	
Ile				Tyr	1.00	1.02	
Leu				Val	1.00	1.05	

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

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CAS Number: 75921-69-6

**Description:**

Synthetic analog of  $\alpha$ -MSH that is an agonist at melanocortin receptors ( $K_i$  values are 0.085, 0.4, 3.8 and 5.1 nM for MC<sub>1</sub>, MC<sub>3</sub>, MC<sub>4</sub> and MC<sub>5</sub> receptors respectively).

**Physical and Chemical Properties:**Batch Molecular Formula: C<sub>78</sub>H<sub>111</sub>N<sub>21</sub>O<sub>19</sub>

Batch Molecular Weight: 1646.86

Physical Appearance: White lyophilised solid

**Peptide Sequence:**Ac-Ser-Tyr-Ser-Nle-Glu-His-D-Phe-Arg-Trp-  
Gly-Lys-Pro-Val-NH<sub>2</sub>**Storage:** Desiccate at -20°C**Solubility & Usage Info:**

Soluble to 0.60 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:** 79.5% (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  $\mu$ m filter to remove potential bacterial contamination whenever possible.

**References:****Wikber** (1999) Melanocortin receptors: perspectives for novel drugs. *Eur.J.Pharmacol.* **375** 295. PMID: 10443584.**Sawyer et al** (1980) 4-Norleucine, 7-D-phenylalanine- $\alpha$ -melanocyte-stimulating hormone: a highly potent  $\alpha$ -melanotropin with ultrapotent biological activity. *Proc.Natl.Acad.Sci.USA* **77** 5754.

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