

## Certificate of Analysis

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**Product Name:** [D-Trp<sup>8</sup>]-γ-MSH

**Catalog No.:** 4272

**Batch No.:** 2

**CAS Number:** 321351-81-9

### 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>74</sub> H <sub>99</sub> N <sub>21</sub> O <sub>16</sub> S
<b>Batch Molecular Weight:</b>	1570.79
<b>Physical Appearance:</b>	White lyophilised solid
<b>Net Peptide Content:</b>	84.3%
<b>Counter Ion:</b>	TFA
<b>Solubility:</b>	Soluble to 1 mg/ml in water
<b>Storage:</b>	Store at -20°C
<b>Peptide Sequence:</b>	Tyr-Val-Met-Gly-His-Phe-Arg-D-Trp-Asp-Arg-Phe-Gly

### 2. ANALYTICAL DATA

<b>HPLC:</b>	Shows 95.9% purity
<b>Mass Spectrum:</b>	Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala				Lys			
Arg	2.00	2.23	Met	1.00	1.00		
Asx	1.00	1.07	Phe	2.00	1.88		
Cys			Pro				
Glx			Ser				
Gly	2.00	2.00	Thr				
His	1.00	0.99	Trp				
Ile			Tyr	1.00	0.91		
Leu			Val	1.00	1.01		

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

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CAS Number: 321351-81-9

**Description:**

Selective melanocortin 3 (MC<sub>3</sub>) receptor agonist (IC<sub>50</sub> values are 6.7, 340 and 600 nM for human MC<sub>3</sub>, MC<sub>5</sub> and MC<sub>4</sub> receptors respectively). Displays anti-inflammatory efficacy.

**Physical and Chemical Properties:**Batch Molecular Formula: C<sub>74</sub>H<sub>99</sub>N<sub>21</sub>O<sub>16</sub>S

Batch Molecular Weight: 1570.79

Physical Appearance: White lyophilised solid

**Peptide Sequence:**Tyr-Val-Met-Gly-His-Phe-Arg-D-Trp-Asp-Arg-  
Phe-Gly**Storage:** Store at -20°C**Solubility & Usage Info:**

Soluble to 1 mg/ml in water

**Net Peptide Content:** 84.3% (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:**

**Grieco et al** (2000) D-amino acid scan of  $\gamma$ -melanocyte-stimulating hormone: importance of Trp<sup>8</sup> on human MC3 receptor selectivity. *J.Med.Chem.* **43** 4998. PMID: 11150170.

**Getting et al** (2006) [D-Trp<sup>8</sup>]- $\gamma$ -Melanocyte-stimulating-hormone exhibits anti-inflammatory efficacy in mice bearing a nonfunctional MC1R (recessive yellow e/e mouse). *Mol.Pharmacol.* **70** 1850. PMID: 16959942.

**Patel et al** (2010) Anti-inflammatory and antiosteoclastogenesis properties of endogenous melanocortin receptor type 3 in experimental arthritis. *FASEB J.* **24** 4835. PMID: 20702773.

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