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Certificate of Analysis

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Product Name: **[D-Trp^{8}]-γ-MSH** **Catalog No.: 4272** **Batch No.: 3**

CAS Number: 321351-81-9

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{74}H_{99}N_{21}O_{16}S$
Batch Molecular Weight:	1570.79
Physical Appearance:	White lyophilised solid
Net Peptide Content:	77%
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	Tyr-Val-Met-Gly-His-Phe-Arg-D-Trp-Asp-Arg-Phe-Gly

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			Lys		
Arg	2.00	2.05	Met	1.00	1.00
Asx	1.00	0.90	Phe	2.00	2.17
Cys			Pro		
Glx			Ser		
Gly	2.00	2.05	Thr		
His	1.00	1.07	Trp	1.00	
Ile			Tyr	1.00	1.11
Leu			Val	1.00	0.93

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Product Name: **[D-Trp^8]-γ-MSH**

Catalog No.: 4272 **Batch No.: 3**

CAS Number: 321351-81-9

Description:

Selective melanocortin 3 (MC_3) receptor agonist (IC_{50} values are 6.7, 340 and 600 nM for human MC_3, MC_5 and MC_4 receptors respectively). Displays anti-inflammatory efficacy.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{74}H_{99}N_{21}O_{16}S$

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

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: 77% (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 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 µm filter to remove potential bacterial contamination whenever possible.

References:

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

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

Grieco *et al* (2000) D-amino acid scan of γ-melanocyte-stimulating hormone: importance of Trp^8 on human MC3 receptor selectivity. J.Med.Chem. ***43*** 4998. PMID: 11150170.