

Certificate of Analysis

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Product Name: α-MSH
CAS Number: 581-05-5

Catalog No.: 2584 **Batch No.:** 12

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇₇H₁₀₉N₂₁O₁₉S
Batch Molecular Weight: 1664.9
Physical Appearance: White lyophilised solid
Counter Ion: Trifluoroacetate
Solubility: Soluble to 0.60 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Ac-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Trp-Gly-Lys-Pro-Val-NH₂

2. ANALYTICAL DATA

HPLC: Shows 98.8% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys	1.00	1.00
Arg	1.00	1.00	Met	1.00	0.99
Asx			Phe	1.00	1.01
Cys			Pro	1.00	1.01
Glx	1.00	1.01	Ser	2.00	1.38
Gly	1.00	1.01	Thr		
His	1.00	1.00	Trp	1.00	0.23
Ile			Tyr	1.00	0.96
Leu			Val	1.00	1.01

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

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel: +1 612 379 2956

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Description:

α-MSH is an endogenous melanocortin receptor agonist (K_i values are 0.12, 31, 660 and 5700 nM for MC₁, MC₃, MC₄ and MC₅ receptors respectively). Anti-inflammatory peptide; antagonizes proinflammatory mediators, including TNF-α, IL-6 and NO and induces anti-inflammatory cytokine IL-10. Inhibits food intake and induces penile erections following i.c.v. administration.

Physical and Chemical Properties:

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Peptide Sequence:

Ac-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Trp-
Gly-Lys-Pro-Val-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 0.60 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and 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.

Counter Ion: Trifluoroacetate

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 µm filter to remove potential bacterial contamination whenever possible.

References:

Yamaoka-Tojo *et al* (2006) Central neurotensin, alpha-melanocyte-stimulating hormone (α-MSH) is upregulated in patients with congestive heart failure. *Intern.Med.* **45** 429. PMID: 16679696.

Mizusawa *et al* (2002) Alpha-melanocyte stimulating hormone and oxyt. induced penile erections, and intracavernous pressure increases in the rat. *J.Urol.* **167** 757. PMID: 11792967.

Wikber (1999) Melanocortin receptors: perspectives for novel drugs. *Eur.J.Pharmacol.* **375** 295. PMID: 10443584.

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