

Certificate of Analysis

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Product Name: JKC 363
CAS Number: 436083-30-6

Catalog No.: 3426 **Batch No.:** 2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆₉H₉₁N₁₉O₁₆S₂
Batch Molecular Weight: 1506.72
Physical Appearance: White lyophilised solid
Net Peptide Content: 74%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: $\overbrace{\text{Mpr-Glu-His-D-2-Nal-Arg-Trp-Gly-Cys-Pro-Pro-}}^{\text{Lys-Asp-NH}_2}$

2. ANALYTICAL DATA

HPLC: Shows 95% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

| Amino Acid | | Theoretical | Actual | Amino Acid | | Theoretical | Actual |
|------------|------|-------------|--------|------------|------|-------------|--------|
| Ala | | | | Lys | 1.00 | 1.00 | |
| Arg | 1.00 | 0.93 | Met | | | | |
| Asx | 1.00 | 1.06 | Phe | | | | |
| Cys | | | Pro | 2.00 | 1.74 | | |
| Glx | 1.00 | 0.96 | Ser | | | | |
| Gly | 1.00 | 0.97 | Thr | | | | |
| His | 1.00 | 0.77 | Trp | | | | |
| Ile | | | Tyr | | | | |
| Leu | | | Val | | | | |

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

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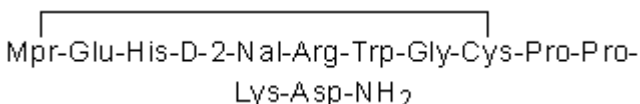
Description:

Potent and selective melanocortin MC₄ receptor antagonist (IC₅₀ values are 0.5 and 44.9 nM at MC₄ and MC₃ respectively) that antagonizes the effects of α-MSH. Suppresses thyrotropin-releasing hormone (TRH) release, attenuates food intake and reduces formalin-induced pain in vivo.

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Physical Appearance: White lyophilised solid

Peptide Sequence:



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: 74% (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 µm filter to remove potential bacterial contamination whenever possible.

References:

Kim et al (2002) Effects of melanocortin receptor ligands on thyrotropin-releasing hormone release: evidence for the differential roles of melanocortin 3 and 4 receptors. *J.Neuroendocrinol.* **14** 276. PMID: 11963824.
Bellasio et al (2003) Melanocortin receptor agonists and antagonists modulate nociceptive sensitivity in the mouse formalin test. *Eur.J.Pharmacol.* **482** 127. PMID: 14660013.
Verty et al (2004) Evidence for an interaction between CB₁ cannabinoid and melanocortin MCR-4 receptors in regulating food intake. *Endocrinology* **145** 3224. PMID: 15033920.

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