bio-techne
TOCRIS

Print Date: Feb 25th 2026

Certificate of Analysis

www.tocris.com

Product Name: **HS 014** **Catalog No.: 1831** **Batch No.: 8**

CAS Number: 207678-81-7

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{71}H_{94}N_{20}O_{17}S_2$

Batch Molecular Weight: 1563.77

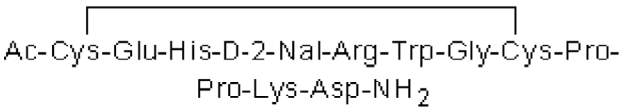
Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence:



2. ANALYTICAL DATA

HPLC: Shows 98.4% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	1.00	1.01
Arg	1.00	0.99	Met		
Asx	1.00	0.99	Phe		
Cys	2.00	Not Detected	Pro	2.00	2.02
Glx	1.00	0.98	Ser		
Gly	1.00	1.01	Thr		
His	1.00	0.95	Trp	1.00	Not Detected
Ile			Tyr		
Leu			Val		

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Product Name: **HS 014** **Catalog No.: 1831** **Batch No.: 8**

CAS Number: 207678-81-7

Description:

HS 014 is a potent and selective melanocortin MC_4 receptor antagonist (K_i values are 3.16, 108, 54.4 and 694 nM for cloned human MC_4, MC_1, MC_3 and MC_5 receptors respectively). Increases food intake in rats and nociception in mice following central administration in vivo. Also inhibits IL-1β-induced Fos expression in the paraventricular hypothalamus.

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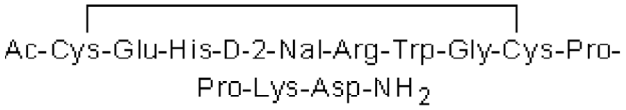

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 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: 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:

Whitaker and Reye (2008) Central blockade of melanocortin receptors attenuates the metabolic and locomotor responses to peripheral interleukin-1β administration. Neuropharmacology ***54*** 509. PMID: 18082228.

Bellasio *et al* (2003) Melanocortin receptor agonists and antagonists modulate nociceptive sensitivity in the mouse formalin test. Eur.J.Pharmacol. ***482*** 127. PMID: 14660013.

Schioth *et al* (1998) Discovery of novel melanocortin$_4$ receptor selective MSH analogues. Br.J.Pharmacol. ***124*** 75. PMID: 9630346.