

Certificate of Analysis

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Product Name: LIH 383

Catalog No.: 8095

Batch No.: 1

CAS Number: 2866266-58-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₅H₇₂N₁₆O₈S
Batch Molecular Weight: 997.23
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 2 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Phe-Gly-Gly-Phe-Met-Arg-Arg-Lys-NH₂

2. ANALYTICAL DATA

HPLC: Shows 97.5% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys	1.00	0.98
Arg	2.00	2.08	Met	1.00	0.88
Asx			Phe	2.00	1.95
Cys			Pro		
Glx			Ser		
Gly	2.00	1.99	Thr		
His			Trp		
Ile			Tyr		
Leu			Val		

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

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CAS Number: 2866266-58-0

Description:

LIH 383 is a potent and highly selective atypical chemokine receptor (ACKR3/CXCR7) agonist. LIH 383 competes directly with CXCL12-AF647 and is more potent in inducing β -arrestin recruitment to ACKR3 (EC_{50} = 0.61 nM) than the full-length chemokine ligands CXCL12 or CXCL11 (EC_{50} values are 1.2 nM and 2.2 nM, respectively). In a rat ex vivo model, LIH 383 increases the availability and signaling of opioid peptides at classical receptors.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{45}H_{72}N_{16}O_8S$

Batch Molecular Weight: 997.23

Physical Appearance: White lyophilised solid

Peptide Sequence:

Phe-Gly-Gly-Phe-Met-Arg-Arg-Lys-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 2 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 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 μ m filter to remove potential bacterial contamination whenever possible.

Licensing Information:

Sold under patent license from Luxembourg Institute of Health.

References:

Kleist *et al* (2022) Conformational selection guides β -arrestin recruitment at a biased G protein-coupled receptor. *Science* **377** 222. PMID: 35857540.

Meyrath *et al* (2020) The atypical chemokine receptor ACKR3/CXCR7 is a broad-spectrum scavenger for opioid peptides. *Nat. Commun.* **11** 3033. PMID: 32561830.

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