bio-techne
TOCRIS

Print Date: Oct 30th 2024

Certificate of Analysis

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Product Name: **ATI 2341** **Catalog No.: 5795** **Batch No.: 6**

CAS Number: 1337878-62-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{104}H_{178}N_{26}O_{25}S_2$

Batch Molecular Weight: 2256.82

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Pal-Met-Gly-Tyr-Gln-Lys-Lys-Leu-Arg-Ser-Met-Thr-Asp-Lys-Tyr-Arg-Leu

2. ANALYTICAL DATA

HPLC: Shows 97.2% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	3.00	2.95
Arg	2.00	1.97	Met	2.00	2.00
Asx	1.00	1.00	Phe		
Cys			Pro		
Glx	1.00	1.00	Ser	1.00	1.04
Gly	1.00	1.03	Thr	1.00	1.07
His			Trp		
Ile			Tyr	2.00	2.01
Leu	2.00	1.98	Val		

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Product Name: **ATI 2341** **Catalog No.: 5795** **6**

CAS Number: 1337878-62-2

Description:

ATI 2341 is a CXCR4 allosteric agonist (EC_{50} = 194 nM). Induces chemotaxis in CXCR4-expressing cells in vitro. Mobilizes polymorphonuclear neutrophils (PMNs) and hematopoietic stem and progenitor cells (HSPCs) from bone marrow niche in vivo. Exhibits biased signaling towards G_i proteins over G_{13} and β-arrestin.

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Pal-Met-Gly-Tyr-Gln-Lys-Lys-Leu-Arg-Ser-Met-Thr-Asp-Lys-Tyr-Arg-Leu

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:

Planesas *et al* (2015) Studying the binding interactions of allosteric agonists and antagonists of the CXCR4 receptor. J.Mol.Graph Model. ***60*** 1. PMID: 26080355.

Quoyer *et al* (2013) Pepducin targeting the C-X-C chemokine receptor type 4 acts as a biased agonist favoring activation of the inhibitory G protein. Proc.Natl.Acad.Sci.U.S.A. ***110*** E5088. PMID: 24309376.

Tchernychev *et al* (2010) Discovery of a CXCR4 agonist pepducin that mobilizes bone marrow hematopoietic cells. Proc.Natl.Acad.Sci.U.S.A. ***107*** 22255. PMID: 21139054.