

Certificate of Analysis

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Product Name: MLCK inhibitor peptide 18

Catalog No.: 1885

Batch No.: 10

CAS Number: 224579-74-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆₀H₁₀₅N₂₃O₁₁
Batch Molecular Weight: 1324.64
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Arg-Lys-Lys-Tyr-Lys-Tyr-Arg-Arg-Lys-NH₂

2. ANALYTICAL DATA

HPLC: Shows 98.3% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala				Lys	4.00	4.00	
Arg	3.00	2.95		Met			
Asx				Phe			
Cys				Pro			
Glx				Ser			
Gly				Thr			
His				Trp			
Ile				Tyr	2.00	2.04	
Leu				Val			

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

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Product Name: MLCK inhibitor peptide 18

Catalog No.: 1885

Batch No.: 10

CAS Number: 224579-74-2

Description:

MLCK inhibitor peptide 18 is a selective competitive inhibitor of myosin light chain kinase ($IC_{50} = 50$ nM). Displays 4000-fold selectivity over CaM kinase II and does not inhibit PKA. Cell permeable.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{60}H_{105}N_{23}O_{11}$

Batch Molecular Weight: 1324.64

Physical Appearance: White lyophilised solid

Peptide Sequence:

Arg-Lys-Lys-Tyr-Lys-Tyr-Arg-Arg-Lys-NH₂

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.

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:

Zolotarevsky et al (2002) A membrane-permeant peptide that inhibits MLC kinase restores barrier function in in vitro models of intestinal disease. *Gastroenterology* **123** 163. PMID: 12105845.

Lukas et al (1999) Identification of novel classes of protein kinase inhibitors using combinatorial peptide chemistry based on functional genomics knowledge. *J.Med.Chem.* **42** 910. PMID: 10072688.

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