

Certificate of Analysis

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Product Name: Decanoyl-RVKR-CMK

Catalog No.: 3501

Batch No.: 13

CAS Number: 150113-99-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₄H₆₆ClN₁₁O₅
Batch Molecular Weight: 744.42
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Decanoyl-Arg-Val-Lys-Arg-CMK

2. ANALYTICAL DATA

HPLC: Shows 95.6% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys	1.00	0.97
Arg	1.00	1.03	Met		
Asx			Phe		
Cys			Pro		
Glx			Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu			Val	1.00	1.00

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

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Description:

Decanoyl-RVKR-CMK is a subtilisin/Kex2p-like proprotein convertase inhibitor; blocks activity of all seven convertases (PC1, PC2, PC4, PACE4, PC5, PC7 and furin). Abolishes proET-1 processing in endothelial cells; inhibits regulated secretion of the neuronal polypeptide VGF in PC12 cells. Inhibits cleavage of glycoprotein B of human cytomegalovirus. Also inhibits cleavage of SARS-CoV-2 spike protein by furin and blocks viral cell entry (IC₅₀ = 57 nM in plaque reduction assay).

Physical and Chemical Properties:

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Batch Molecular Weight: 744.42

Physical Appearance: White lyophilised solid

Peptide Sequence:

Decanoyl-Arg-Val-Lys-Arg-CMK

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 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:

Cheng et al (2020) Furin inhibitors block SARS-CoV-2 spike protein cleavage to suppress virus production and cytopathic effects. *Cell Rep.* **33** 108254. PMID: 33007239.

Tian and Jianhua (2010) Comparative study of the binding pocket of mammalian proprotein convertases and its implications for the design of specific small molecule inhibitors. *Int.J.Biol.Sci.* **6** 89. PMID: 20151049.

Garcia et al (2005) A prohormone convertase cleavage site within a predicted alpha-helix mediates sorting of the neuronal and endocrine polypeptide VGF into the regulated secretory pathway. *J.Biol.Chem.* **280** 41595. PMID: 16221685.

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