

Certificate of Analysis

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Product Name: CALP1
CAS Number: 145224-99-3

Catalog No.: 2090 **Batch No.:** 6

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄₀H₇₅N₉O₁₀
Batch Molecular Weight: 842.09
Physical Appearance: White lyophilised solid
Net Peptide Content: 71%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Val-Ala-Ile-Thr-Val-Leu-Val-Lys

2. ANALYTICAL DATA

HPLC: Shows 98.5% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala	1.00	1.05	Lys	1.00	0.99
Arg			Met		
Asx			Phe		
Cys			Pro		
Glx			Ser		
Gly			Thr	1.00	0.93
His			Trp		
Ile	1.00	1.01	Tyr		
Leu	1.00	1.03	Val	3.00	2.93

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

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Description:

Cell-permeable calmodulin (CaM) agonist that binds to the EF-hand/Ca²⁺-binding site; produces CaM-dependent activation of phosphodiesterase. Also binds to cytoplasmic sites on other Ca²⁺ channels, including NMDA and HIV-1 gp120-activated channels, inhibiting Ca²⁺-mediated cytotoxicity and apoptosis (IC₅₀ = 52 μM). Shown to protect pancreatic acinar cells from gossypol (Cat.No. 1964) induced necrosis. Inhibits VLA-5-mediated adhesion of mast cells to fibronectin in vitro and attenuates inflammatory cell influx in guinea pig lung in vivo.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:

Val-Ala-Ile-Thr-Val-Leu-Val-Lys

Storage: Desiccate 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.

Net Peptide Content: 71% (Remaining weight made up of counterions and residual water).

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:

- Ferdek et al** (2017) BH3 mimetic-elicited Ca²⁺ signals in pancreatic acinar cells are dependent on Bax and can be reduced by Ca²⁺-like peptides. *Cell.Death.Dis.* **8**. PMID: 28252652.
- Ten Broeke et al** (2003) Ca²⁺ sensors modulate asthmatic symptoms in an allergic model for asthma. *Eur.J.Pharmacol.* **476** 151. PMID: 12969760.
- Houtman et al** (2001) Attenuation of very late antigen-5-mediated adhesion of bone marrow-derived mast cells to fibronectin by peptides with inverted hydrophathy to EF-hands. *J.Immunol.* **166** 861. PMID: 11145661.
- Manion et al** (2000) A new type of Ca²⁺ channel blocker that targets Ca²⁺ sensors and prevents Ca²⁺-mediated apoptosis. *FASEB J.* **14** 1297. PMID: 10877822.
- Villain et al** (2000) *De novo* design of peptides targeted to the EF hands of calmodulin. *J.Biol.Chem.* **274** 2676.

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