TOCRIS
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Print Date: May 12th 2021

# Certificate of Analysis

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**Product Name:** **CALP1** **Catalog No.: 2090** **Batch No.: 7**

CAS Number: 145224-99-3

## 1. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Batch Molecular Formula:** | $C_{40}H_{75}N_9O_{10}$ |
| **Batch Molecular Weight:** | 842.09 |
| **Physical Appearance:** | White lyophilised solid |
| **Net Peptide Content:** | 70% |
| **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% purity |
| **Mass Spectrum:** | Consistent with structure |

## 3. AMINO ACID ANALYSIS DATA

| Amino Acid | Theoretical | Actual | Amino Acid | Theoretical | Actual |
|---|---|---|---|---|---|
| Ala | 1.00 | 1.00 | Lys | 1.00 | 1.02 |
| Arg | | | Met | | |
| Asx | | | Phe | | |
| Cys | | | Pro | | |
| Glx | | | Ser | | |
| Gly | | | Thr | 1.00 | 0.94 |
| His | | | Trp | | |
| Ile | 1.00 | 0.99 | Tyr | | |
| Leu | 1.00 | 1.03 | Val | 3.00 | 3.02 |

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

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**Product Name:** **CALP1** **Catalog No.: 2090** **Batch No.: 7**

CAS Number: 145224-99-3

**Description:**

Cell-permeable calmodulin (CaM) agonist that binds to the EF-hand/$Ca^{2+}$-binding site; produces CaM-dependent activation of phosphodiesterase. Also binds to cytoplasmic sites on other $Ca^{2+}$ channels, including NMDA and HIV-1 gp120-activated channels, inhibiting $Ca^{2+}$-mediated cytotoxicity and apoptosis ($IC_{50}$ = 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:**

Batch Molecular Formula: $C_{40}H_{75}N_9O_{10}$

Batch Molecular Weight: 842.09

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:** 70% (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 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 $Ca^{2+}$ signals in pancreatic acinar cells are dependent on Bax and can be reduced by $Ca^{2+}$-like peptides. Cell.Death.Dis. ***8***. PMID: 28252652.

**Ten Broeke** *et al* (2003) $Ca^{2+}$ 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 hydropathy to EF-hands. J.Immunol. ***166*** 861. PMID: 11145661.

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