

# PRODUCT INFORMATION



## PKCε Inhibitor Peptide

Item No. 17476

CAS Registry No.: 182683-50-7

Synonyms: Protein Kinase Cε Inhibitor Peptide,  
εV1-2

MF: C<sub>37</sub>H<sub>65</sub>N<sub>9</sub>O<sub>13</sub>

H—Glu—Ala—Val—Ser—Leu—Lys—Pro—Thr—OH

FW: 844.0

Purity: ≥95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

PKCε inhibitor peptide is supplied as a crystalline solid. A stock solution may be made by dissolving the PKCε inhibitor peptide in the solvent of choice. PKCε inhibitor peptide is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of PKCε inhibitor peptide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PKCε inhibitor peptide in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

PKCε is a calcium-independent, phospholipid- and diacylglycerol-dependent serine/threonine kinase involved in diverse signaling pathways, including those involved in neuronal signaling, cytoskeletal function, and inflammation.<sup>1</sup> PKCε inhibitor peptide is a synthetic peptide corresponding to an amino acid sequence found in the amino terminal C2 domain of most mammalian forms of PKCε.<sup>2</sup> It selectively and reversibly inhibits the translocation of PKCε to intracellular membranes, blocking activation.<sup>2</sup> PKCε inhibitor peptide is commonly used in cells to evaluate the role of PKCε in various cellular responses.<sup>3-5</sup>

### References

1. Toker, A. Signaling through protein kinase C. *Front. Biosci.* **3**, d1134-d1147 (1998).
2. Johnson, J.A., Gray, M.O., Chen, C.-H., *et al.* A protein kinase C translocation inhibitor as an isozyme-selective antagonist of cardiac function. *J. Biol. Chem.* **271(40)**, 24962-24966 (1996).
3. Schuster, D.J., Kitto, K.F., Overland, A.C., *et al.* Protein kinase Cε is required for spinal analgesic synergy between δ opioid and α-2A adrenergic receptor agonist pairs. *J. Neurosci.* **33(33)**, 13538-13546 (2013).
4. Thomspon, J.W., Dave, K.R., Saul, I., *et al.* Epsilon PKC increases brain mitochondrial SIRT1 protein levels via heat shock protein 90 following ischemic preconditioning in rats. *PLoS One* **8(9)**, 1-12 (2013).
5. Obis, T., Besalduch, N., Hurtado, E., *et al.* The novel protein kinase C epsilon isoform at the adult neuromuscular synapse: Location, regulation by synaptic activity-dependent muscle contraction through TrkB signaling and coupling to ACh release. *Mol. Brain* (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897  
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM