

PRODUCT INFORMATION



PKCζ Pseudosubstrate Inhibitor

Item No. 17482

CAS Registry No.: 799764-07-1

Formal Name: L-seryl-L-isoleucyl-L-tyrosyl-L-arginyl-L-arginylglycyl-L-alanyl-L-arginyl-L-arginyl-L-tryptophyl-L-arginyl-L-lysyl-L-leucine

Synonym: Protein Kinase Cζ Pseudosubstrate Inhibitor

MF: C₇₆H₁₂₈N₃₀O₁₆

FW: 1,718.0

Purity: ≥95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years

H—Ser—Ile—Tyr—Arg—Arg—Gly—Ala—
Arg—Arg—Trp—Arg—Lys—Leu—OH

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

Laboratory Procedures

PKCζ pseudosubstrate inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the PKCζ pseudosubstrate inhibitor in the solvent of choice. PKCζ pseudosubstrate inhibitor is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of PKCζ pseudosubstrate inhibitor in these solvents is approximately 30 and 20 mg/ml, respectively.

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 PKCζ pseudosubstrate inhibitor can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PKCζ pseudosubstrate inhibitor in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The atypical protein kinase C isoform, PKCζ, is critical for mediating mitogenic signal transduction, cell survival, and some of the physiological actions of insulin.¹ PKCζ pseudosubstrate inhibitor is a synthetic peptide that corresponds to a pseudosubstrate domain of this PKC isoform.² It selectively, reversibly, and substrate-competitively inhibits PKCζ activity and, thus, is used to delineate the signaling functions of PKCζ.³⁻⁵

References

1. Toker, A. Signaling through protein kinase C. *Front. Biosci.* **3**, d1134-d1147 (1998).
2. Eichholtz, T., de Bont, D.B.A., de Widt, J., et al. A myristoylated pseudosubstrate peptide, a novel protein kinase C inhibitor. *J. Biol. Chem.* **268**(3), 1982-1986 (1993).
3. Lee, A.W. The role of atypical protein kinase C in CSF-1-dependent Erk activation and proliferation in myeloid progenitors and macrophages. *PLoS One* **6**(10), e25580 (2011).
4. Dang, P.M.C., Fontayne, A., Hakim, J., et al. Protein kinase C ζ phosphorylates a subset of selective sites of the NADPH oxidase component p47phox and participates in formyl peptide-mediated neutrophil respiratory burst. *J. Immunol.* **166**, 1206-1213 (2001).
5. Standaert, M.L., Galloway, L., Karnam, P., et al. Protein kinase C-ζ as a downstream effector of phosphatidylinositol 3-kinase during insulin stimulation in rat adipocytes. Potential role in glucose transport. *J. Biol. Chem.* **272**(48), 30075-30082 (1997).

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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