

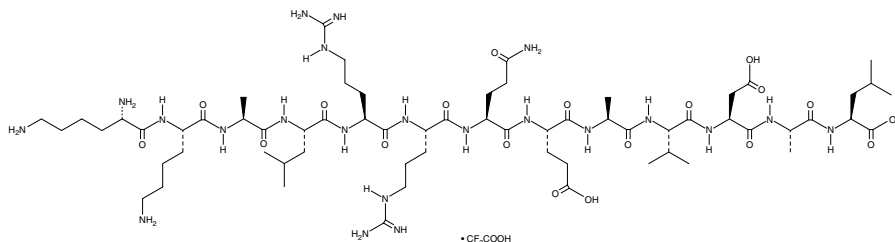
Product Information



Autocamtide-2-related Inhibitory Peptide

Item No. 17590

Formal Name: L-lysyl-L-lysyl-L-alanyl-L-leucyl-L-arginyl-L-arginyl-L-glutamyl-L- α -glutamyl-L-alanyl-L-valyl-L- α -aspartyl-L-alanyl-L-leucine, 2,2,2-trifluoroacetate
MF: C₆₄H₁₁₆N₂₂O₁₉ • CF₃COOH
FW: 1,611.8
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that autocamtide-2-related inhibitory peptide be stored as supplied at -20°C. It should be stable for at least two years.

Autocamtide-2-related inhibitory peptide is supplied as a crystalline solid. A stock solution may be made by dissolving the autocamtide-2-related inhibitory peptide in the solvent of choice. Autocamtide-2-related inhibitory peptide is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of autocamtide-2-related inhibitory peptide in these solvents is approximately 30 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 autocamtide-2-related inhibitory peptide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of autocamtide-2-related inhibitory peptide in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Autocamtide-2-related inhibitory peptide is a calmodulin-dependent protein kinase II (CaMKII) inhibitor (IC₅₀ = 40 nM) that was designed based on the sequence around the autophosphorylation site (Thr²⁸⁶/Thr²⁸⁷) in the autoinhibitory domain of the protein kinase.^{1,2} It is nonphosphorylatable and selective for CaMKII over PKC, PKA and CaMKIV (IC₅₀s > 10 μM).^{1,2} This compound is a useful tool for studying the physiological roles of CaMKII.³

References

1. Ishida, A., Kameshita, I., Okuno, S., *et al.* A novel highly specific and potent inhibitor of calmodulin-dependent protein kinase II. *Biochem. Biophys. Res. Commun.* **212**(3), 806-812 (1995).
2. Ishida, A. and Fujisawa, H. Stabilization of calmodulin-dependent protein kinase II through autoinhibitory domain. *J. Biol. Chem.* **270**(5), 2163-2170 (1995).
3. Takasawa, S., Ishida, A., Nata, K., *et al.* Requirement of calmodulin-dependent protein kinase II in cyclic ADP-ribose-mediated intracellular Ca²⁺ mobilization. *J. Biol. Chem.* **270**(51), 30257-30259 (1995).

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Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

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