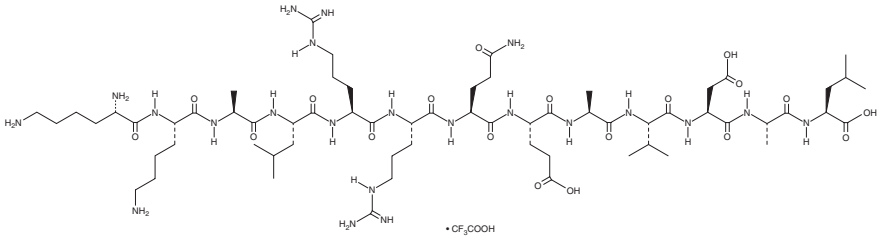
PRODUCT INFORMATION

Autocamtide-2-related Inhibitory Peptide (trifluoroacetate salt)

Item No. 17590

Formal Name:	L-lysyl-L-lysyl-L-alanyl-L-leucyl-L-arginyl-L-arginyl-L-glutaminyl-L-α-glutamyl-L-alanyl-L-valyl-L-α-aspartyl-L-alanyl-L-leucine, 2,2,2-trifluoroacetate
MF:	$C_{64}H_{116}N_{22}O_{19} \bullet CF_3COOH$
FW:	1,611.8
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

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

Description

Autocamtide-2-related inhibitory peptide is a calmodulin-dependent protein kinase II (CaMKII) inhibitor (IC_{50} = 40 nM) that was designed based on the sequence around the autophosphorylation site (Thr^{286}/Thr^{287}) in the autoinhibitory domain of the protein kinase.[1,2] It is nonphosphorylatable and selective for CaMKII over PKC, PKA and CaMKIV (IC_{50}s > 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 Ca^{2+} mobilization. *J. Biol. Chem.* **270(51)**, 30257-30259 (1995).

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