

# PRODUCT INFORMATION



## PKA Inhibitor (5-24) (trifluoroacetate salt)

Item No. 15996

<b>Formal Name:</b>	L-threonyl-L-threonyl-L-tyrosyl-L-alanyl-L- $\alpha$ -aspartyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-serylglycyl-L-arginyl-L-threonylglycyl-larginyl-L-aspartic acid, 2,2,2-trifluoroacetate salt	Thr—Thr—Tyr—Ala—Asp—Phe—Ile—Ala—Ser—Gly—
<b>Synonyms:</b>	PKI (5-24), Protein Kinase A Inhibitor (5-24)	Arg—Thr—Gly—Arg—Arg—Asn—Ala—Ile—His—Asp
<b>MF:</b>	$C_{94}H_{148}N_{32}O_{31} \cdot XCF_3COOH$	
<b>FW:</b>	2,222.4	$\cdot XCF_3COOH$
<b>Purity:</b>	$\geq 95\%$	
<b>Supplied as:</b>	A crystalline solid	
<b>Storage:</b>	-20°C	
<b>Stability:</b>	$\geq 4$ years	

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

### Laboratory Procedures

PKA inhibitor (5-24) (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the PKA inhibitor (5-24) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. PKA inhibitor (5-24) (trifluoroacetate salt) is soluble in the organic solvent DMSO at a concentration of approximately 1 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 PKA inhibitor (5-24) (trifluoroacetate salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PKA inhibitor (5-24) (trifluoroacetate salt) in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

PKA Inhibitor (5-24) is a synthetic peptide inhibitor of PKA (cAMP-dependent protein kinase) ( $K_i = 2.3$  nM) derived from the active site of the skeletal muscle inhibitor protein.<sup>1</sup> It mimics the protein substrate by binding to the catalytic site through the arginine-cluster basic subsite.<sup>1</sup> The prominent enzyme-substrate interaction site occurs where PKA catalytic subunit residues Tyr<sup>235</sup> and Phe<sup>239</sup> form a sandwich-like structure with residue Phe<sup>10</sup> of PKA (5-24).<sup>2</sup>

### References

1. Cheng, H.-C., Kemp, B.E., Pearson, R.B., *et al.* A potent synthetic peptide inhibitor of the cAMP-dependent protein kinase. *J. Biol. Chem.* **261**(3), 989-992 (1986).
2. Bossemeyer, D., Engh, R.A., Kinzel, V., *et al.* Phosphotransferase and substrate binding mechanism of the cAMP-dependent protein kinase catalytic subunit from porcine heart as deduced from the 2.0 Å structure of the complex with Mn<sup>2+</sup> adenylyl imidodiphosphate and inhibitor peptide PKI(5-24). *EMBO J.* **12**(3), 849-859 (1993).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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