PRODUCT INFORMATION

PKA Inhibitor Fragment (6-22) amide

Item No. 17486

CAS Registry No.: 121932-06-7
Formal Name: L-threonyl-L-tyrosyl-L-alanyl-L-α-aspartyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-serylglycyl-L-arginyl-L-threonylglycyl-L-arginyl-L-arginyl-L-asparaginyl-L-alanyl-L-isoleucinamide
Synonym: PKI (6-22) amide
MF: $C_{80}H_{130}N_{28}O_{24}$
FW: 1,868.1
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years

H—Thr—Tyr—Ala—Asp—Phe—Ile—Ala—Ser—Gly—Arg—Thr—Gly—Arg—Arg—Asn—Ala—Ile—NH_2

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

Laboratory Procedures

PKA inhibitor fragment (6-22) amide is supplied as a crystalline solid. A stock solution may be made by dissolving the PKA inhibitor fragment (6-22) amide in the solvent of choice, which should be purged with an inert gas. PKA inhibitor fragment (6-22) amide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of PKA inhibitor fragment (6-22) amide 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 PKA inhibitor fragment (6-22) amide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PKA inhibitor fragment (6-22) amide in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PKA inhibitor fragment (6-22) amide is a synthetic peptide inhibitor of cAMP-dependent protein kinase (PKA; K_i = 1.7 nM) derived from the heat-stable PKA inhibitor protein PKI.[1] It is the shortest synthetic PKI peptide that retains high potency for PKA inhibition. Both the arginine-containing pseudosubstrate site of the PKI peptide in its COOH terminus and the residue Phe^{10} in NH_2-terminal portion are required for this high affinity binding.[2]

References

1. Glass, D.B., Cheng, H.C., Mende-Mueller, L., *et al.* Primary structural determinants essential for potent inhibition of cAMP-dependent protein kinase by inhibitory peptides corresponding to the active portion of the heat-stable inhibitor protein. *J. Biol. Chem.* **264(15)**, 8802-8810 (1989).
2. Glass, D.B., Lundquist, L.J., Katz, B.M., *et al.* Protein kinase inhibitor-(6-22)-amide peptide analogs with standard and nonstandard amino acid substitutions for phenylalanine 10. Inhibition of cAMP-dependent protein kinase. *J. Biol. Chem.* **264(24)**, 14579-14584 (1989).

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