PRODUCT INFORMATION

Cdk5 Substrate

Item No. 17477

CAS Registry No.: 164669-07-2
Formal Name: L-prolyl-L-lysyl-L-threonyl-L-prolyl-L-lysyl-L-lysyl-L-alanyl-L-lysyl-L-lysyl-L-leucine
Synonym: Cyclin-dependent kinase 5 Substrate
MF: $C_{53}H_{99}N_{15}O_{12}$
FW: 1,138.5
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years

H—Pro—Lys—Thr—Pro—Lys—Lys—Ala—Lys—Lys—Leu—OH

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

Laboratory Procedures

Cdk5 substrate is supplied as a crystalline solid. A stock solution may be made by dissolving the Cdk5 substrate in the solvent of choice, which should be purged with an inert gas. Cdk5 substrate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of Cdk5 substrate in these solvents is approximately 1, 20, and 10 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 Cdk5 substrate can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of Cdk5 substrate in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cdk5 is a serine/threonine kinase that is predominantly active in neuronal tissues. With p25 or p35, Cdk5 phosphorylates a range of proteins, including histone H1 and tau.[1] Cdk5 substrate is a synthetic peptide (PKTPKKAKKL) corresponding to a sequence of histone H1. It is phosphorylated by Cdk5 with a K_m value of 5 µM.[2,3]

References

1. Peterson, D.W., Ando, D.M., Taketa, D.A., *et al.* No difference in kinetics of tau or histone phosphorylation by CDK5/p25 versus CDK5/p35 in vitro. *Proc. Natl. Acad. Sci. USA* **107(7)**, 2884-2889 (2010).
2. Beaudette, K.N., Lew, J., and Wang, J.H. Substrate specificity characterization of a cdc2-like protein kinase purified from bovine brain. *J. Biol. Chem.* **268(28)**, 20825-20830 (1993).
3. Sharma, P., Steinbach, P.J., Sharma, M., *et al.* Identification of substrate binding site of cyclin-dependent kinase 5. *J. Biol. Chem.* **274(14)**, 9600-9606 (1999).

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