CREBtide

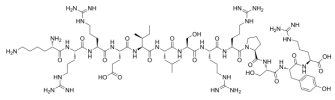
Cat. No.: HY-P1595

CAS No.: 149155-45-3

Molecular Formula: $C_{73}H_{129}N_{29}O_{19}$

Molecular Weight: 1716.99

Sequence: Lys-Arg-Arg-Glu-Ile-Leu-Ser-Arg-Arg-Pro-Ser-Tyr-Arg



Sequence Shortening: KRREILSRRPSYR

Target: PKA

Pathway: Stem Cell/Wnt

Storage: Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (58.24 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.5824 mL	2.9121 mL	5.8241 mL
	5 mM	0.1165 mL	0.5824 mL	1.1648 mL
	10 mM	0.0582 mL	0.2912 mL	0.5824 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (29.12 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description CREBtide, a synthetic 13 amino acid peptide, has been reported as a PKA substrate.

IC_{50} & Target PKA[1]

In Vitro delta-CREB is a spliced variant of cAMP response element binding protein (CREB). CREBtide (KRREILSRRPSYR), a synthetic peptide based on the phosphorylation sequence in delta-CREB. delta-CREB and CREBtide are tested as substrates of cAMP-dependent protein kinase (cAK). The apparent K_m of CREBtide phosphorylation by cAK is 3.9 μM, which is 10-fold lower than that of Kemptide (K_m=39 μM), the synthetic peptide substrate most often employed for cAK measurement. The V_{max} values are 12.4 mumol/(min.mg) for CREBtide and 9.8 mumol/(min.mg) for Kemptide. The apparent K_m of CREBtide phosphorylation by cGMP-dependent protein kinase (cGK) is 2.9 μM and the V_{max} value is 3.2 mumol/(min.mg). Both delta-

CREB and CREBtide are phosphorylated at a much slower rate by cGK as compared with cAK, implying that the high cAK/cGK specificity exhibits by delta-CREB is retained by the peptide[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Wu J, et al. A microPLC-based approach for determining kinase-substrate specificity. Assay Drug Dev Technol. 2007 Aug;5(4):559-66.

[2]. Colbran JL, et al. cAMP-dependent protein kinase, but not the cGMP-dependent enzyme, rapidly phosphorylates delta-CREB, and a synthetic delta-CREB peptide. Biochem Cell Biol. 1992 Oct-Nov;70(10-11):1277-82.

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