# Data Sheet (Cat.No.TP1876)

CREBtide

## Chemical Properties

| | |
|---|---|
| CAS No.: | 149155-45-3 |
| Formula: | C73H129N29O19 |
| Molecular Weight: | 1716.99 |
| Appearance: | N/A |
| Storage: | 0-4℃ for short term (days to weeks), or -20℃ for long term (months). |

## Biological Description

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|---|---|
| Description | CREBtide is a synthetic substrate for PKA (Km=3.9 μM), which is based on the phosphorylation sequence in d-CREB (cAMP response element binding protein). |
| Targets($IC_{50}$) | PKA: None |
| 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 kise (cAK). The apparent Km of CREBtide phosphorylation by cAK is 3.9 μM, which is 10-fold lower than that of Kemptide (Km=39 μM), the synthetic peptide substrate most often employed for cAK measurement. The Vmax values are 12.4 mumol/(min.mg) for CREBtide and 9.8 mumol/(min.mg) for Kemptide. The apparent Km of CREBtide phosphorylation by cGMP-dependent protein kise (cGK) is 2.9 μM and the Vmax 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]. |

## Solubility Information

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|---|---|
| Solubility | < 1 mg/ml refers to the product slightly soluble or insoluble |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 0.582 mL | 2.912 mL | 5.824 mL |
| 5 mM | 0.116 mL | 0.582 mL | 1.165 mL |
| 10 mM | 0.058 mL | 0.291 mL | 0.582 mL |
| 50 mM | 0.012 mL | 0.058 mL | 0.116 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

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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