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California Bioscience

Product Datasheet

Product Name	cAMP-Dependent Protein Kinase A regulatory subunit-II A Recombinant
Cata No	CB500811
Source	*Escherichia Coli.*
Synonyms	cAMP-Dependent Protein Kinase A regulatory subunit-II A, PKA-RII alpha.

Description

cAMP-dependent PKA is a ubiquitous serine/theonine protein kinase present in a variety of tissues (e.g. brain, skeletal muscle, heart). The intracellular cAMP level regulates cellular responses by altering the interaction between the catatytic C and regulatory R subunits of PKA. The inactive tetrameric PKA holoenzyme R2C2 is activated when cAMP binds to R2, which dissociates the tetramer to R2 cAMP 4 and two active catalytic subunits. Free Catalytic subunits of PKA can phosphorylate a wide variety of intracellular target proteins. In response to hormone- induced high cAMP levels, PKA phosphorylates glycogen synthetase (inhibition of the enzyme activity) and phosphorylase kinase to block glycogen synthesis. Different isoforms of catalytic and regulatory subunits suggest specific functions.
The recombinant PKA regulatory subunit II-a is a dimeric 90 kDa protein.
Protein Kinase A is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered clear solution.

Biological Activity

PKA regulatory subunit alpha specifically inhibits PKA catalytic subunit (Ki about 0.7nM). The binding is not dependent on the presence of ATPMg, however, the regulatory subunit will be phosphorylated at the binding site by PKA C alpha upon binding. Activity can be restored by adding the second messenger cAMP (Kact about 100nM). Subcellular localisation is regulated via interaction of PKA RII with so-called A-kinase anchoring proteins (AKAPs).

Purity

Greater than 95% as determined by SDS-PAGE.

Formulation

PKA regulatory subunit-II alpha is supplied in 50% glycerol.

Stability

PKA should be stored at 4℃ if entire vial will be used within 2-4 weeks. For long term storage it is recommended to store at -20℃.
Avoid multiple freeze-thaw cycles.