

Recombinant cAMP-Dependent Protein Kinase A regulatory subunit I α

Cat. No. PKAI-93 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Source	E.coli
Description	cAMP-dependent PKA is an ubiquitous serine/threonine 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 catalytic C and regulatory R subunits of PKA. The inactive tetrameric PKA holoenzyme R ₂ C ₂ is activated when cAMP binds to R ₂ , which dissociates the tetramer to R ₂ 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 α is a dimeric 90kDa protein.
Physical Appearance	Sterile Filtered clear solution.
Purity	Greater than 90% as determined by SDS-PAGE.
Formulation	PKA regulatory subunit α is supplied in 50% glycerol.
Unit Definition	Specifically inhibits PKA catalytic subunit (K _i about 0.1nM). Activity can be restored by adding cAMP (K _{act} about 100nM). The binding of the catalytic subunit is

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dependent on the presence of ATP and Mg.

Storage

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. Avoid multiple freeze-thaw cycles.

GENE INFORMATION**Synonyms**

cAMP-dependent protein kinase type I-alpha regulatory subunit; Tissue-specific extinguisher 1; TSE1; CAR; CNC; CNC1; PKR1; PPNAD1; PRKAR1; PRKAR1A; MGC17251, DKFZp779L0468; cAMP-dependent protein kinase, regulatory subunit alpha 1; protein kinase A type 1a regulatory subunit; cAMP-dependent protein kinase regulatory subunit RIalpha; cAMP-dependent protein kinase type I-alpha regulatory chain; cAMP-dependent protein kinase, regulatory subunit alpha 1; protein kinase, cAMP-dependent, regulatory, type I, alpha (tissue specific extinguisher 1).

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