Recombinant cAMP-Dependent Protein Kinase A catalytic subunit α

Cat. No. PKAc-a-92 **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 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 catalytic subunit α is a 41kDa protein. The α-isoform is the predominant form with a broad tissue distribution and can be used for in vitro enzymological studies of neural and hormonal signal transduction or to phosphorylate target proteins in vivo including Ion channels, transcriptional activator proteins and regulatory enzymes of glycogen metabolism.
Physical Appearance	Sterile Filtered clear solution.
Purity	Greater than 95% as determined by SDS-PAGE.

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Formulation	PKA (1.35 mg/ml) catalytic subunit α is supplied in a buffer containing 25mM potassium phosphate (pH 6.5), 5mM 2-mercaptoethanol, 5mM EDTA, 150mM NaCl and 50% glycerol.
Unit Definition	One unit is defined as the amount of recombinant PKA catalytic subunit α, required to incorporate 1nmol of phosphate into the specific substrate peptide kemptide (LRRASlG) in one minute at 30°C.
Specific Activity	The specific activity of the recombinant PKA catalytic subunit α, is >10.000 U/mg. Enzymatic activity >15.000.000 units/mg (based on kemptide phosphorylation).
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 alpha-catalytic subunit; EC 2.7.11.11; PKA C-alpha; PKACA; PRKACA; MGC48865; MGC102831; PRKACA; EC 2.7.11.11; PKACa; cAMP-dependent protein kinase catalytic subunit alpha; cAMP-dependent protein kinase catalytic subunit alpha,isoform 1; protein kinase A catalytic subunit; protein kinase, cAMP-dependent, catalytic, alpha.

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