



## Product Datasheet

<b>Product Name</b>	cAMP-Dependent Protein Kinase A catalytic subunit $\alpha$ Recombinant
<b>Cata No</b>	CB500807
<b>Source</b>	<i>Escherichia Coli</i> .
<b>Synonyms</b>	cAMP-dependent protein kinase alpha-catalytic subunit, EC 2.7.11.11, PKA C-alpha, PKACA, PRKACA, MGC48865, MGC102831.

### 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  $\alpha$  is a 41kDa protein. The  $\alpha$ -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.

### Purity

Greater than 95% as determined by SDS-PAGE.

### Formulation

PKA catalytic subunit  $\alpha$  is supplied in a buffer containing 25mM potassium phosphate (pH 6.5), 5mM 2-mercaptoethanol, 5mM EDTA, 150mM NaCl and 50% glycerol.

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