Product Data Sheet

Product Name:	PRKACA Human
Cat. No.:	GP22608
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	cAMP-dependent protein kinase alpha-catalytic subunit; EC 2.7.11.11; PKA C-alpha; PKACA; PRKACA; MGC48865; MGC102831.		
Amino Acid Sequence	MGNAAAAKKG SEQESVKEFL AKAKEDFLKK WESPAQNTAH LDQFERIKTL GTGSFGRVML VKHKETGNHY AMKILDKQKV VKLKQIEHTL NEKRILQAVN FPFLVKLEFS FKDNSNLYMV MEYVPGGEMF SHLRRIGRFS EPHARFYAAQ IVLTFEYLHS LDLIYRDLKP ENLLIDQQGY IQVTDFGFAK RVKGRTWTLC GTPEYLAPEI ILSKGYNKAV DWWALGVLIY EMAAGYPPFF ADQPIQIYEK IVSGKVRFPS HFSSDLKDLL RNLLQVDLTK RFGNLKNGVN DIKNHKWFAT TDWIAIYQRK VEAPFIPKFK GPGDTSNFDD YEEEEIRVSI NEKCGKEFSE F.		
Formulation	PKA catalytic subunit a is supplied in a buffer containing 20mM MOPS pH7, 150mM NaCl, 1mM DTT, 1mM EDTA and 50% Glycerin.		

Stability

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.

Background

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

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regulatory subunits suggest specific functions. The recombinant PKA catalytic subunit a is a 41kDa protein. The a-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.

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