Product Data Sheet

Product Name:	PKAR-I alpha Human
Cat. No.:	GP22592
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	cAMP-dependent protein kinase type I-alpha regulatory subunit; Tissue-specific extinguisher 1; TSE1; PRKAR1A PKR1; PRKAR1; CAR; CNC; CNC1; PKR1; ADOHR; PPNAD1; ACRDYS1.		
Formulation	PKA regulatory subunit-I alpha is supplied at a concentration of 0.8 mg/ml in 20mM MOPS (pH 7.0), 150mM NaCl, 1mM 2-mercaptoethanol and 50% glycerol.		

Introduction

The Regulatory (R) subunit of Protein Kinase A (PKA) inhibits its kinase activity by shielding the Catalytic (C) subunit from physiological substrates. This inhibition is reversed in response to extra-cellular signals that increase cAMP levels in the cytoplasm. Upon cAMP binding to R, C is allosterically released from R, activating a spectrum of downstream signaling cascades. Crystallographic data indicated that a series of distinct conformational changes within CBD-A must occur to relay the cAMP signal from the cAMP binding site to the R:C interaction interface. One critical cAMP relay site within the CBD-A of R has been identified as Asp170 because the D170A mutation selectively reduces the negative cooperativity between the cAMP- and C-recognition sites (i.e. the KD for the R:C complex in the presence of cAMP is reduced by more than 12-fold), without significantly compromising the high affinity of R for both binding partners.

Stability

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

Background

PKA regulatory subunit I a Human Recombinant is a dimeric 86kDa protein (the

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monomer is 381 aa 43kDa). PKAR-I alpha is purified by proprietary chromatographic techniques.

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