

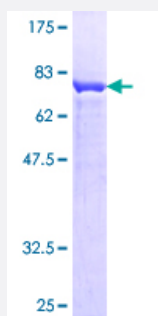
Full-Length

PRKAR1A (Human) Recombinant Protein (P01)

Catalog # H00005573-P01

Size 25 ug, 10 ug

Applications



Specification

Product Description

Human PRKAR1A full-length ORF (NP_002725.1, 1 a.a. - 381 a.a.) recombinant protein with GST-tag at N-terminal.

Sequence

MESGSTAASEEARSLRECELYVQKHNIQALLKDSIVQLCTARPERPMAFLREYFERLEKEEAKQIQ
NLQKAGTRTDSREDEISPPPPNPVVKGRRRRGAISAEVYTEEDAASYVRKVIPKDYKTMAALAKAI
EKNVLFSLDDNERSDIFDAMFSVSFIAGETVIQQGDEGDNFYVIDQGETDVYVNNEWATSVGEG
GSFGELALIYGTPRAATVKAKTNVKLWGIDRDSYRRILMGSTLRKRKMYEEFLSKVSILES LDKWE
RLTVADALEPVQFEDGQKIVVQGEPEGDEFFIILEGSAAVLQRRSENEEFVEVGRLGPSDYFGEIAL
LMNRPRAATTVARGPLKCVKLDPRPRFERVLGPCSDILKRNIQQYNSFVSLSV

Host

Wheat Germ (in vitro)

Theoretical MW (kDa)

69.4

Preparation Method

[in vitro wheat germ expression system](#)

Purification

Glutathione Sepharose 4 Fast Flow

Quality Control Testing

12.5% SDS-PAGE Stained with Coomassie Blue.

Storage Buffer

50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.

Storage Instruction

Store at -80°C. Aliquot to avoid repeated freezing and thawing.

Note

Best use within three months from the date of receipt of this protein.

Applications

- Enzyme-linked Immunoabsorbent Assay
- Western Blot (Recombinant protein)
- Antibody Production
- Protein Array

Gene Info — PRKAR1A

Entrez GeneID [5573](#)

GeneBank Accession# [NM_002734.3](#)

Protein Accession# [NP_002725.1](#)

Gene Name PRKAR1A

Gene Alias CAR, CNC, CNC1, DKFZp779L0468, MGC17251, PKR1, PPNAD1, PRKAR1, TSE1

Gene Description protein kinase, cAMP-dependent, regulatory, type I, alpha (tissue specific extinguisher 1)

Omim ID [160980](#) [188550](#) [188830](#) [255960](#) [610489](#)

Gene Ontology [Hyperlink](#)

Gene Summary

cAMP is a signaling molecule important for a variety of cellular functions. cAMP exerts its effects by activating the cAMP-dependent protein kinase, which transduces the signal through phosphorylation of different target proteins. The inactive kinase holoenzyme is a tetramer composed of two regulatory and two catalytic subunits. cAMP causes the dissociation of the inactive holoenzyme into a dimer of regulatory subunits bound to four cAMP and two free monomeric catalytic subunits. Four different regulatory subunits and three catalytic subunits have been identified in humans. This gene encodes one of the regulatory subunits. This protein was found to be a tissue-specific extinguisher that down-regulates the expression of seven liver genes in hepatoma x fibroblast hybrids. Mutations in this gene cause Carney complex (CNC). This gene can fuse to the RET protooncogene by gene rearrangement and form the thyroid tumor-specific chimeric oncogene known as PTC2. A nonconventional nuclear localization sequence (NLS) has been found for this protein which suggests a role in DNA replication via the protein serving as a nuclear transport protein for the second subunit of the Replication Factor C (RFC40). Three alternatively spliced transcript variants encoding the same protein have been observed. [provided by RefSeq]

Other Designations

cAMP-dependent protein kinase regulatory subunit R1alpha|cAMP-dependent protein kinase type I-alpha regulatory chain|cAMP-dependent protein kinase, regulatory subunit alpha 1|protein kinase A type 1a regulatory subunit|tissue-specific extinguisher 1

Publication Reference

- [STK25 inhibits PKA signaling by phosphorylating PRKAR1A.](#)

Xiaokan Zhang, Bryan Z Wang, Michael Kim, Trevor R Nash, Bohao Liu, Jenny Rao, Roberta Lock, Manuel Tamargo, Rajesh Kumar Soni, John Belov, Eric Li, Gordana Vunjak-Novakovic, Barry Fine.

Cell Reports 2022 Aug; 40(7):111203.

Application: KA, Recombinant proteins

Pathway

- [Apoptosis](#)
- [Insulin signaling pathway](#)

Disease

- [Adenoma](#)
- [Adrenal Cortex Diseases](#)
- [Adrenal Cortex Neoplasms](#)
- [Cushing Syndrome](#)
- [Genetic Predisposition to Disease](#)
- [Myxoma](#)
- [Thyroid Neoplasms](#)