SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

Rabbit Anti-PRKAR1/AP Conjugated antibody

SL3969R-AP

Product Name	Anti-PRKAR1/AP
Chinese Name	碱性磷酸酶（AP）标记的蛋白激酶 A 调节亚基 a1 抗体
Alias	Protein Kinase A regulatory subunit I alpha; cAMP dependent protein kinase regulatory subunit alpha 1; cAMP dependent protein kinase regulatory subunit RIalpha; cAMP dependent protein kinase type I alpha regulatory chain; cAMP dependent protein kinase type I alpha regulatory subunit; CAR; CNC 1; CNC; CNC1; DKFZp779L0468; MGC17251; PKA RIA; PKR 1; PKR1; PPNAD 1; PPNAD1; PRKAR 1; PRKAR1; PRKAR1A; Protein kinase A type 1a regulatory subunitv Protein kinase cAMP dependent regulatory type I alpha; Tissue specific extinguisher 1; TSE 1; TSE1; KAP0_HUMAN.
Research Area	Tumour Cell biology immunology transcriptional regulatory factor Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Mouse(predicted:Human,Rat)
Applications	WB=1:500-2000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	43kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Protein Kinase A regulatory subunit I alpha
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Product Detail

background:
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, Jul 2008].

Function:
Regulatory subunit of the cAMP-dependent protein kinases involved in cAMP signaling in cells.

Subunit:
The inactive holoenzyme is composed of two regulatory chains and two catalytic chains. Activation by cAMP releases the two active catalytic monomers and the regulatory dimer. PRKAR1A also interacts with RFC2; the complex may be involved in cell survival. Interacts with AKAP4. Interacts with RARA; the interaction occurs in the presence of cAMP or FSH and regulates RARA transcriptional activity. Interacts with the phosphorylated form of PJA2. Interacts with CBFA2T3 (By similarity). Interacts with PRKX; regulates this cAMP-dependent protein kinase.

Tissue Specificity:
Four types of regulatory chains are found: I-alpha, I-beta, II-alpha, and II-beta. Their expression varies among tissues and is in some cases constitutive and in others inducible.

Post-translational modifications:
The pseudophosphorylation site binds to the substrate-binding region of the catalytic chain, resulting in the inhibition of its activity.

DISEASE:

Defects in PRKAR1A are the cause of Carney complex type 1 (CNC1) [MIM:160980]. CNC is a multiple neoplasia syndrome characterized by spotty skin pigmentation, cardiac and other myxomas, endocrine tumors, and psammomatous melanotic schwannomas.
Defects in PRKAR1A are the cause of intracardiac myxoma (INTMYX) [MIM:255960]. Inheritance is autosomal recessive.
Defects in PRKAR1A are the cause of primary pigmented nodular adrenocortical disease type 1 (PPNAD1) [MIM:610489]. Primary pigmented nodular adrenocortical disease is a rare bilateral adrenal defect causing ACTH-independent Cushing syndrome. Macroscopic appearance of the adrenals is characteristic with small pigmented micronodules observed in the cortex. PPNAD1 is most often diagnosed in patients with Carney complex, but it can also be observed in patients without other manifestations or familial history.

Similarity:
Belongs to the cAMP-dependent kinase regulatory chain family.
Contains 2 cyclic nucleotide-binding domains.

Database links:
UniProtKB/Swiss-Prot: P10644.1

Important Note:
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.