

Rabbit Anti-PRKACA/Cy5.5 Conjugated antibody

SL7479R-Cy5.5

Product Name	Anti-PRKACA/Cy5.5
Chinese Name	Cy5.5 标记的蛋白激酶 A 催化亚基抗体
Alias	cAMP Protein Kinase Catalytic subunit; cAMP dependent protein kinase alpha catalytic subunit; cAMP dependent protein kinase beta catalytic subunit; cAMP dependent protein kinase catalytic beta subunit isoform 4ab; cAMP dependent protein kinase catalytic subunit alpha; cAMP dependent protein kinase catalytic subunit alpha, isoform 1; cAMP dependent protein kinase catalytic subunit beta; DKFZp781I2452; MGC102831; MGC41879; MGC48865; MGC9320; PKA C alpha; PKA C beta; PKACA; PKACB; PRKACB; Protein kinase A catalytic subunit alpha; Protein kinase A catalytic subunit; Protein kinase A catalytic subunit beta; Protein kinase cAMP dependent catalytic alpha; Protein kinase cAMP dependent catalytic beta; Protein kinase, cAMP dependent, catalytic, alpha; Protein kinase, cAMP dependent, catalytic, beta.
Research Area	Tumour Cell biology Signal transduction Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse(predicted:Rat,Dog,Pig,Cow,Rabbit,Sheep)
Applications	IF=1:100-500not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	40kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human cAMP Protein Kinase Catalytic subunit
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.

background:

This gene encodes one of the catalytic subunits of protein kinase A, which exists as a tetrameric holoenzyme with two regulatory subunits and two catalytic subunits, in its inactive form. 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. cAMP-dependent phosphorylation of proteins by protein kinase A is important to many cellular processes, including differentiation, proliferation, and apoptosis. Constitutive activation of this gene caused either by somatic mutations, or genomic duplications of regions that include this gene, have been associated with hyperplasias and adenomas of the adrenal cortex and are linked to corticotropin-independent Cushing's syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. Tissue-specific isoforms that differ at the N-terminus have been described, and these isoforms may differ in the post-translational modifications that occur at the N-terminus of some isoforms. [provided by RefSeq, Jan 2015]

Product Detail

Function:

CREB, SMAD6 and PKD1 and has multiple functions in cellular differentiation and epithelial morphogenesis. Regulates myeloid cell differentiation through SMAD6 phosphorylation. Involved in nephrogenesis by stimulating renal epithelial cell migration and tubulogenesis. Also involved in angiogenesis through stimulation of endothelial cell proliferation, migration and vascular-like structure formation

Subunit:

Like other cAMP-dependent protein kinases, the inactive holoenzyme is probably composed of 2 PRKX catalytic subunits and a dimer of regulatory subunits. Interacts (cAMP-dependent) specifically with the regulatory subunits PRKAR1A and PRKAR1B. Compared to other cAMP-dependent serine/threonine protein kinases, does not interact with the 2 other PKA regulatory subunits PRKAR2A and PRKAR2B. Interacts with cAMP-dependent protein kinase inhibitor/PKI proteins; inhibits PRKX. Interacts with GPKOW. Interacts with SMAD6. Interacts with PKD1; involved in differentiation and controlled morphogenesis of the kidney. Interacts with PIN1 (via WW domain).

Subcellular Location:

Cytoplasmic and Nuclear

Tissue Specificity:

Widely expressed (at protein level). Specifically expressed in blood by macrophages and granulocytes according to PubMed:9860982.

Post-translational modifications:

Phosphorylated; autophosphorylates in vitro.

DISEASE:

A chromosomal aberration involving PRKX is a cause of sex reversal disorder. Translocation t(X;Y)(p22;p11) with PRKY. Chromosomal translocations proximal to PRKY account for about 30% of the cases of sex reversal disorder in XX males and XY females.

Similarity:

Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. cAMP subfamily.

Database links:

[Entrez Gene: 5566](#) Human

[Entrez Gene: 18747](#) Mouse

[Entrez Gene: 25636](#) Rat

[Omim: 601639](#) Human

[SwissProt: P17612](#) Human

[SwissProt: P05132](#) Mouse

[SwissProt: P27791](#) Rat

[Unigene: 631630](#) Human

[Unigene: 19111](#) Mouse

[Unigene: 20](#) Rat

Important Note:

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