

Rabbit PRKAR1A Polyclonal Antibody | anti-PRKAR1A antibody

PRKAR1A Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA325924	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

PRKAR1A; Polyclonal Antibody; PRKAR1A Antibody; ACRDYS1; ADOHR; 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; cAMP-dependent protein kinase type I-alpha regulatory subunit; CAR; Carney complex type 1; CNC 1; CNC; CNC1; DKFZp779L0468; KAP0_HUMAN; MGC17251; PKA RIA; PKR 1; PKR1; PPNAD 1; PPNAD1; PRKAR 1; PRKAR1; PRKAR1A/RARA FUSION GENE; Protein kinase A type 1a regulatory subunit; Protein kinase cAMP dependent regulatory type I alpha; PTC2 CHIMERIC ONCOGENE; INCLUDED; Tissue specific extinguisher 1; Tissue-specific extinguisher 1; TSE 1; TSE1; anti-PRKAR1A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	PRKAR1A antibody detects endogenous levels of total PRKAR1A
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	381
Applicable Applications for anti-PRKAR1A antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human PRKAR1A
Subcellular Location	Plasma Membrane
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.
Predicted Cross Reactivity	Pig, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus
Similarity	Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (100%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA325924 staining HepG2 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemistry)

AAA325924 at 1/100 staining Human liver cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)

Western blot analysis of A549 whole cell lysates, using PRKAR1A Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-PRKAR1A antibody

Description: The second messenger cyclic AMP (cAMP) activates cAMP-dependent protein kinase (PKA or CAPK) in mammalian cells and controls many cellular mechanisms such as gene transcription, ion transport, and protein phosphorylation (1). Inactive PKA is a heterotetramer composed of a regulatory subunit (R) dimer and a catalytic subunit (C) dimer. In this inactive state, the pseudosubstrate sequences on the R subunits block the active sites on the C subunits. Three C subunit isoforms (C-alpha, C-beta, and C-gamma) and two families of regulatory subunits (RI and RII) with distinct cAMP binding properties have been identified. The two R families exist in two isoforms, alpha and beta (RI-alpha, RI-beta, RII-alpha, and RII-beta). Upon binding of cAMP to the R subunits, the autoinhibitory contact is eased and active monomeric C subunits are released. PKA shares substrate specificity with Akt (PKB) and PKC, which are characterized by an arginine at position-3 relative to the phosphorylated serine or threonine residue (2). Substrates that present this consensus sequence and have been shown to be phosphorylated by PKA are Bad (Ser155), CREB (Ser133), and GSK-3 (GSK-3alpha Ser21 and GSK-3beta Ser9) (3-5). In addition, combined knock-down of PKA C-alpha and -beta blocks cAMP-mediated phosphorylation of Raf (Ser43 and Ser259) (6). Autophosphorylation and phosphorylation by PDK-1 are two known mechanisms responsible for phosphorylation of the C subunit at Thr197 (7).

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

Subunit Structure: 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. Interacts with C2orf88/smAKAP; this interaction may target PRKAR1A to the plasma membrane. Interacts with AICDA.

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

Similarity: Belongs to the cAMP-dependent kinase regulatory chain family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	443497964
NCBI GeneID	5573
NCBI Accession #	NP_001263218.1
NCBI GenBank Nucleotide #	NM_001276289.1
UniProt Accession #	P10644; Q567S7; K7ER48
Molecular Weight	Observed: 43 kDa Predicted: 43 kDa

NCBI Official Full Name	cAMP-dependent protein kinase type I-alpha regulatory subunit isoform a
NCBI Official Synonym Full Names	protein kinase cAMP-dependent type I regulatory subunit alpha
NCBI Official Symbol	PRKAR1A
NCBI Official Synonym Symbols	CAR; CNC; CNC1; PKR1; TSE1; ADOHR; PPNAD1; PRKAR1; ACRDYS1
NCBI Protein Information	cAMP-dependent protein kinase type I-alpha regulatory subunit
UniProt Protein Name	cAMP-dependent protein kinase type I-alpha regulatory subunit
UniProt Gene Name	PRKAR1A
UniProt Synonym Gene Names	PKR1; PRKAR1; TSE1; TSE1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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