Rabbit KAPC A/B Polyclonal Antibody | anti-KAPC A/B antibody

KAPC A/B Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA323816	**Rabbit**	**Human, Mouse, Rat**	**ELISA, Immunocytochemistry, Immunofluorescence, Western Blot**

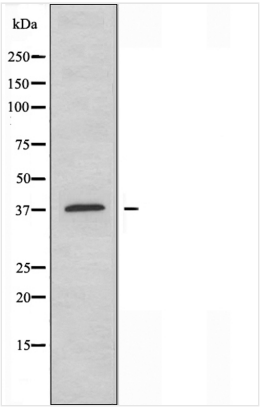
PRODUCT SYNONYMS

KAPC A/B; Polyclonal Antibody; KAPC A/B Antibody; 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; isoform 1; cAMP dependent protein kinase catalytic subunit beta; cAMP-dependent protein kinase catalytic subunit alpha; KAPCA_HUMAN; PKA C alpha; PKA C beta; PKA C-alpha; PKACA; PKACB; PPNAD4; PRKACA; PRKACAA; PRKACB; Protein kinase A catalytic subunit alpha; Protein kinase A catalytic subunit; Protein kinase A catalytic subunit beta; Protein kinase; cAMP dependent; catalytic; alpha; beta; cAMP-dependent protein kinase catalytic beta subunit isoform 4ab; cAMP-dependent protein kinase catalytic subunit beta; KAPCB_HUMAN; PKA C-beta; Prkacb; protein kinase A catalytic subunit beta; Protein kinase cAMP dependent catalytic beta; anti-KAPC A/B antibody

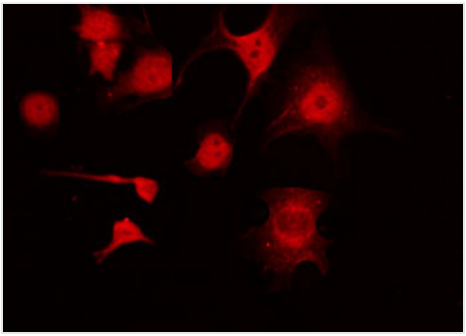
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	KAPC A/B antibody detects endogenous levels of total KAPC A/B
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	427
Applicable Applications for anti-KAPC A/B antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide
Subcellular Location	Cytoplasm. Cell Membrane. Nucleus. Mitochondrion. Translocates into the nucleus (monomeric catalytic subunit). The inactive holoenzyme is found in the cytoplasm. Distributed throughout the cytoplasm in meiotically incompetent oocytes. Associated to mitochondrion as meiotic competence is acquired. Aggregates around the germinal vesicles (GV) at the immature GV stage oocytes and Cell projection, cilium, flagellum. Expressed in the midpiece region of the sperm flagellum.
Tissue Specificity	Isoform 1 is ubiquitous. Isoform 2 is sperm-specific and is enriched in pachytene spermatocytes but is not detected in round spermatids.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



WB (Western Blot)
Western blot analysis of extracts from Jurkat cells using KAPC A/B antibody.



IF (Immunofluorescence)
AAA323816 staining COLO205 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) Ab, diluted at 1/600, was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-KAPC A/B antibody	Function: Phosphorylates a large number of substrates in the cytoplasm and the nucleus. Regulates the abundance of compartmentalized pools of its regulatory subunits through phosphorylation of PJA2 which binds and ubiquitinates these subunits, leading to their subsequent proteolysis. Phosphorylates CDC25B, ABL1, NFKB1, CLDN3, PSMC5/RPT6, PJA2, RYR2, RORA and VASP. RORA is activated by phosphorylation. Required for glucose-mediated adipogenic differentiation increase and osteogenic differentiation inhibition from osteoblasts. Involved in the regulation of platelets in response to thrombin and collagen; maintains circulating platelets in a resting state by phosphorylating proteins in numerous platelet inhibitory pathways when in complex with NF-kappa-B (NFKB1 and NFKB2) and I-kappa-B-alpha (NFKBIA), but thrombin and collagen disrupt these complexes and free active PRKACA stimulates platelets and leads to platelet aggregation by phosphorylating VASP. Prevents the antiproliferative and anti-invasive effects of alpha-difluoromethylornithine in breast cancer cells when activated. RYR2 channel activity is potentiated by phosphorylation in presence of luminal Ca2+, leading to reduced amplitude and increased frequency of store overload-induced Ca2+ release (SOICR) characterized by an increased rate of Ca2+ release and propagation velocity of spontaneous Ca2+ waves, despite reduced wave amplitude and resting cytosolic Ca2+. PSMC5/RPT6 activation by phosphorylation stimulates proteasome. Negatively regulates tight junctions (TJs) in ovarian cancer cells via CLDN3 phosphorylation. NFKB1 phosphorylation promotes NF-kappa-B p50-p50 DNA binding. Involved in embryonic development by down-regulating the Hedgehog (Hh) signaling pathway that determines embryo pattern formation and morphogenesis. Prevents meiosis resumption in prophase-arrested oocytes via CDC25B inactivation by phosphorylation. May also regulate rapid eye movement (REM) sleep in the pedunculopontine tegmental (PPT). Phosphorylates APOBEC3G and AICDA. Isoform 2 phosphorylates and activates ABL1 in sperm flagellum to promote spermatozoa capacitation. Phosphorylates HSF1; this phosphorylation promotes HSF1 nuclear localization and transcriptional activity upon heat shock (PubMed:21085490). Subunit Structure: A number of inactive tetrameric holoenzymes are produced by the combination of homo-or heterodimers of the different regulatory subunits associated with 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. The cAMP-dependent protein kinase catalytic subunit binds PJA2. Both isoforms 1 and 2 forms activate cAMP-sensitive PKAI and PKAII holoenzymes by interacting with regulatory subunit (R) of PKA, PRKAR1A/PKR1 and PRKAR2A/PKR2, respectively. Interacts with NFKB1, NFKB2 and NFKBIA in platelets; these interactions are disrupted by thrombin and collagen. Binds to ABL1 in spermatozoa and with CDC25B in oocytes. Interacts with APOBEC3G and AICDA. Interacts with RAB13; downstream effector of RAB13 involved in tight junction assembly. Found in a complex at least composed of MROH2B, PRKACA isoform 2 and TCP11 (By similarity). Interacts with MROH2B (By similarity). Isoform 2 interacts with TCP11 (By similarity). Interacts with HSF1 (PubMed:21085490). Post-translational Modifications: Asn-3 is partially deaminated to Asp giving rise to 2 major isoelectric variants, called CB and CA respectively. Autophosphorylated. Phosphorylation is enhanced by vitamin K2. Phosphorylated on threonine and serine residues. Phosphorylation on Thr-198 is required for full activity. Phosphorylated at Tyr-331 by activated receptor tyrosine kinases EGFR and PDGFR; this increases catalytic efficienncy. Similarity: Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. cAMP subfamily.

NCBI AND UNIPROT INFORMATION

NCBI GI #	748585205
NCBI GeneID	5566
NCBI Accession #	NP_001291278.1
NCBI GenBank Nucleotide #	NM_001304349.1
UniProt Accession #	P17612; Q32P54; Q9H2Y0; Q9NRB4; Q9NRH9
Molecular Weight	Observed: 38 kD Predicted: 41 kDa
NCBI Official Full Name	cAMP-dependent protein kinase catalytic subunit alpha isoform 3
NCBI Official Synonym Full Names	protein kinase cAMP-activated catalytic subunit alpha
NCBI Official Symbol	PRKACA
NCBI Official Synonym Symbols	PKACA; PPNAD4
NCBI Protein Information	cAMP-dependent protein kinase catalytic subunit alpha
UniProt Protein Name	cAMP-dependent protein kinase catalytic subunit alpha
UniProt Gene Name	**PRKACA**
UniProt Synonym Gene Names	PKACA; PKA C-alpha

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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Online datasheet: https://stage.aaabiotech.com/polyclonal/kapc-a-b-antibody-immunocytochemistry-immunofluorescence-western-blot-elisa/323816