



PKA α / β / γ cat Monoclonal Antibody

Catalog No	YP-mAb-14928
Isotype	IgG
Reactivity	Human;Mouse;Rat
Applications	WB
Gene Name	PRKACA/PRKACB
Immunogen	The antiserum was produced against synthesized peptide derived from human PKA alpha/beta CAT. AA range:166-215
Specificity	PKA α / β / γ cat Monoclonal Antibody detects endogenous levels of PKA α / β / γ cat protein.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source	Monoclonal, Mouse,IgG
Purification	The antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen.
Dilution	WB 1:500-1:2000
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	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;Protein kinase cAMP dependent catalytic beta; cAMP-dependent protein kinase catalytic subunit gamma;KAPCG_HUMAN; KAPG;PKA C gamma;PKA C-gamma;PKACg;PRKACG;Protein kinase cAMP dependent catalytic gamma;Serine (threonine) protein kinase;PKA;PRKACA/ PRKACB;cAMP-dependent protein kinase catalytic subunit alpha/beta
Observed Band	40kD
Calculated Molecular Weight	40kD



Cell Pathway	Cytoplasm. Cell membrane. Nucleus . Mitochondrion . Membrane ; Lipid-anchor . 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 (By similarity). Colocalizes with HSF1 in nuclear stress bodies (nSBs) upon heat shock (PubMed:21085490). . ; [Isoform 2]: Cell projection, cilium, flagellum . Cytoplasmic vesicle, secretory vesicle, acrosome . Expressed in the midpiece region of the sperm flagellum (PubMed:10906071). Colocalizes with MROH2B and TCP11 on the acrosome and tail regions in round spermatids and spermatozoa regardle
Tissue Specificity	Isoform 1 is ubiquitous. Isoform 2 is sperm-specific and is enriched in pachytene spermatocytes but is not detected in round spermatids.
Function	catalytic activity:ATP + a protein = ADP + a phosphoprotein.,enzyme regulation:Activated by cAMP.,function:Phosphorylates a large number of substrates in the cytoplasm and the nucleus.,PTM:Asn-3 is partially deaminated to Asp giving rise to 2 major isoelectric variants, called CB and CA respectively.,similarity:Belongs to the protein kinase superfamily.,similarity:Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. cAMP subfamily.,similarity:Contains 1 AGC-kinase C-terminal domain.,similarity:Contains 1 protein kinase domain.,subcellular location:Translocates into the nucleus (monomeric catalytic subunit) (By similarity). The inactive holoenzyme is found in the cytoplasm.,subunit: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 ca
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. Altern
matters needing attention	Avoid repeated freezing and thawing!
Usage suggestions	This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

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