



PKA α / β / γ cat (phospho Thr197) Polyclonal Antibody

Catalog No	YP-Ab-14339
Isotype	IgG
Reactivity	Human;Mouse;Rat
Applications	WB;IHC;IF;ELISA
Gene Name	PRKACA/PRKACB
Protein Name	cAMP-dependent protein kinase catalytic subunit alpha/beta
Immunogen	The antiserum was produced against synthesized peptide derived from human PKA CAT around the phosphorylation site of Thr197. AA range:166-215
Specificity	Phospho-PKA α / β / γ cat (T198) Polyclonal Antibody detects endogenous levels of PKA α / β / γ cat protein only when phosphorylated at T198.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source	Polyclonal, Rabbit,IgG
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Dilution	Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications.
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	PRKACA; PKACA; cAMP-dependent protein kinase catalytic subunit alpha; PKA C-alpha; PRKACB; cAMP-dependent protein kinase catalytic subunit beta; PKA C-beta; PRKACG; cAMP-dependent protein kinase catalytic subunit gamma; PKA C-gamma
Observed Band	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

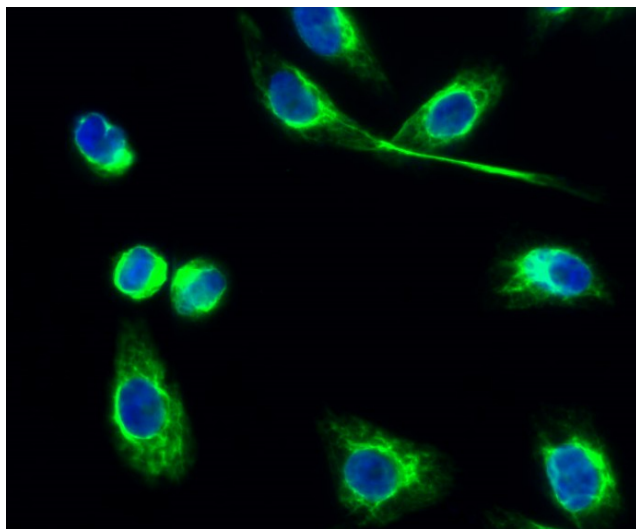
Avoid repeated freezing and thawing!

Usage suggestions

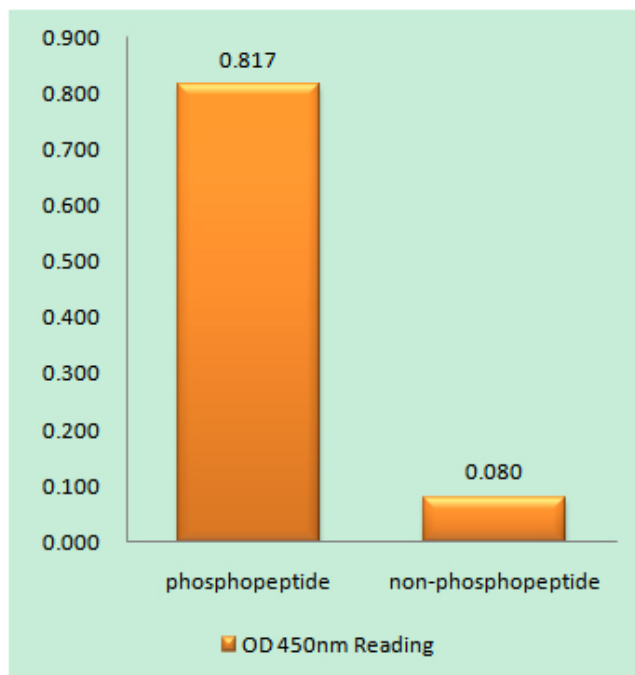
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



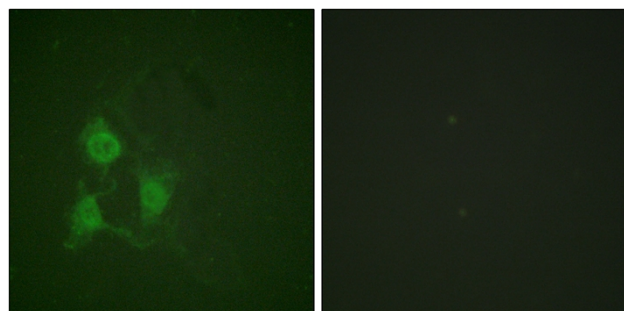
Products Images



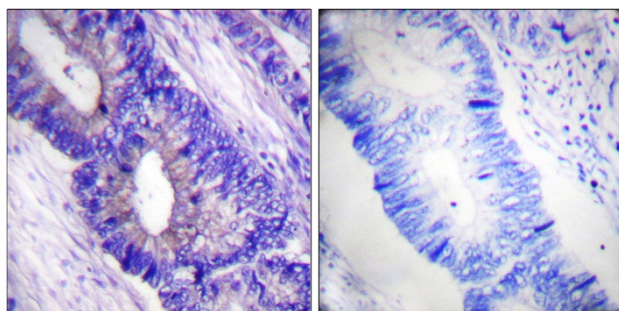
Immunofluorescence analysis of HeLa cell. 1, PKA $\alpha/\beta/\gamma$ cat (phospho Thr198) Polyclonal Antibody (green) was diluted at 1:200 (4° overnight). 2, Goat Anti Rabbit Alexa Fluor 488 Catalog: RS3211 was diluted at 1:1000 (room temperature, 50min). 3 DAPI (blue) 10min.



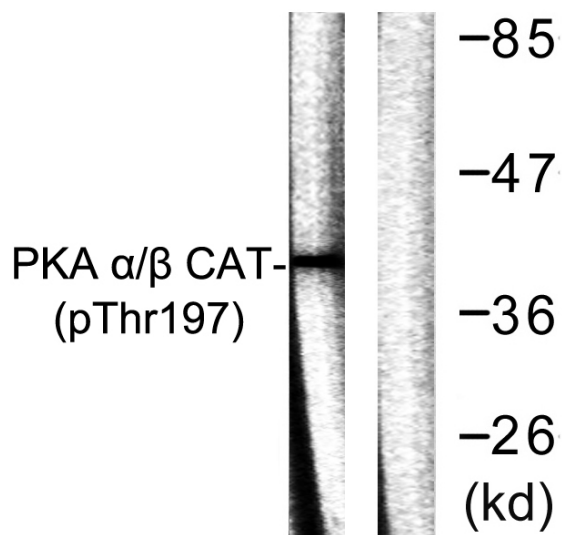
Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using PKA CAT (Phospho-Thr197) Antibody



Immunofluorescence analysis of A549 cells, using PKA CAT (Phospho-Thr197) Antibody. The picture on the right is blocked with the phospho peptide.



Immunohistochemistry analysis of paraffin-embedded human colon carcinoma, using PKA CAT (Phospho-Thr197) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from mouse brain, using PKA CAT (Phospho-Thr197) Antibody. The lane on the right is blocked with the phospho peptide.