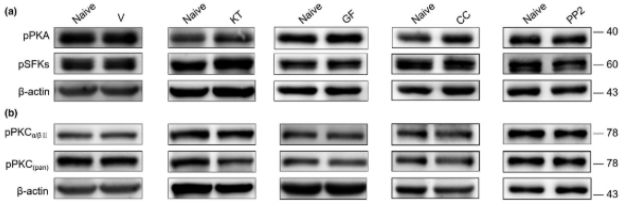
PKAα/β/γ cat Polyclonal Antibody

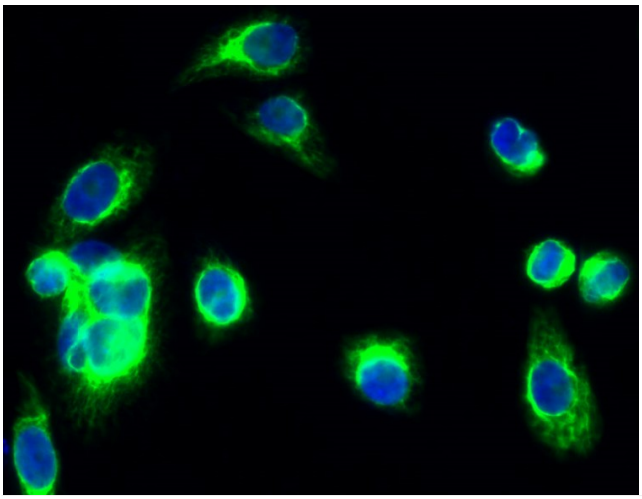
Catalog No	YP-Ab-14928
Isotype	IgG
Reactivity	Human;Mouse;Rat;Pig
Applications	WB;IHC;IF;ELISA
Gene Name	PRKACA/PRKACB
Protein Name	cAMP-dependent protein kinase catalytic subunit alpha/beta
Immunogen	The antiserum was produced against synthesized peptide derived from human PKA alpha/beta CAT. AA range:166-215
Specificity	PKAα/β/γ cat Polyclonal Antibody detects endogenous levels of PKAα/β/γ cat protein.
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: 1/20000. 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.

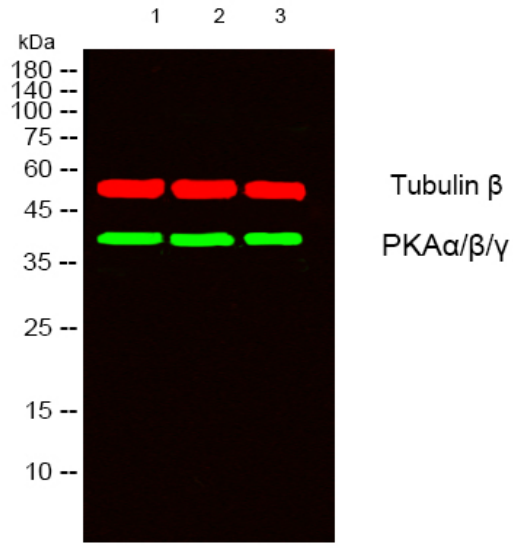
Products Images



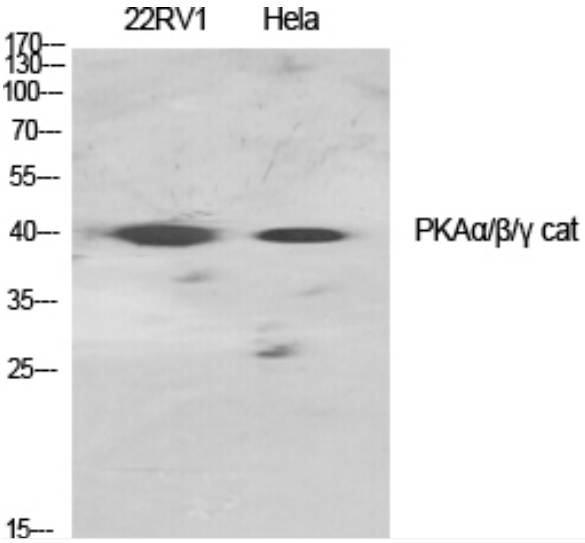
Sun, Xiao-Dong, et al. "Regulation of the firing activity by PKA-PKC-Src family kinases in cultured neurons of hypothalamic arcuate nucleus." Journal of neuroscience research 98.2 (2020): 384-403.



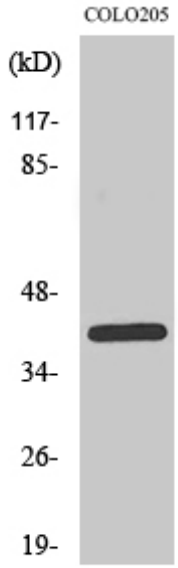
Immunofluorescence analysis of Hela cell. 1,PKAα/β/γ cat Polyclonal Antibody(green) was diluted at 1:200(4° overnight). 2, Goat Anti Rabbit Alexa Fluor 488 Catalog:RS3211 was diluted at 1:1000(room temperature, 50min). 3 DAPI(blue) 10min.



Western blot analysis of lysates from 1) 22RV1, 2) Hela , 3) COLO205 cells, （Green） primary antibody was diluted at 1:1000, 4°over night, secondary antibody(cat:RS23920)was diluted at 1:10000, 37° 1hour. （Red） Tubulin β Monoclonal Antibody(5G3) (cat:YM3030) antibody was diluted at 1:5000 as loading control, 4° over night,secondary antibody(cat:RS23710)was diluted at 1:10000, 37° 1hour.



Western Blot analysis of various cells using PKAα/β/γ cat Polyclonal Antibody diluted at 1:1000



Western Blot analysis of COLO205 cells using PKAα/β/γ cat Polyclonal Antibody diluted at 1:1000