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PKA C-beta (PRKACB) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7047a

Specification

PKA C-beta (PRKACB) Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P22694
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**14-43**

PKA C-beta (PRKACB) Antibody (N-term) - Additional Information

Gene ID 5567

Other Names
cAMP-dependent protein kinase catalytic subunit beta, PKA C-beta, PRKACB

Target/Specificity
This PKA C-beta (PRKACB) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 14-43 amino acids from the N-terminal region of human PKA C-beta (PRKACB).

Dilution
WB~~1:1000
IHC-P~~1:50~100
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
PKA C-beta (PRKACB) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PKA C-beta (PRKACB) Antibody (N-term) - Protein Information

Name PRKACB

Function Mediates cAMP-dependent signaling triggered by receptor binding to GPCRs

(PubMed:12420224, PubMed:21423175, PubMed:31112131). PKA activation regulates diverse cellular processes such as cell proliferation, the cell cycle, differentiation and regulation of microtubule dynamics, chromatin condensation and decondensation, nuclear envelope disassembly and reassembly, as well as regulation of intracellular transport mechanisms and ion flux (PubMed:12420224, PubMed:21423175). 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 (PubMed:12420224, PubMed:21423175). Phosphorylates GPKOW which regulates its ability to bind RNA (PubMed:21880142). Acts as a negative regulator of mTORC1 by mediating phosphorylation of RPTOR (PubMed:31112131).

Cellular Location
Cytoplasm. Cell membrane. Membrane; Lipid- anchor. Nucleus {ECO:0000250|UniProtKB:P05131} Note=Translocates into the nucleus (monomeric catalytic subunit). The inactive holoenzyme is found in the cytoplasm {ECO:0000250|UniProtKB:P05131}

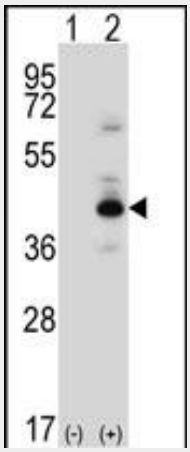
Tissue Location
Isoform 1 is most abundant in the brain, with low level expression in kidney. Isoform 2 is predominantly expressed in thymus, spleen and kidney. Isoform 3 and isoform 4 are only expressed in the brain.

PKA C-beta (PRKACB) Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PKA C-beta (PRKACB) Antibody (N-term) - Images



Western blot analysis of PRKACB (arrow) using rabbit polyclonal PRKACB Antibody (K29) (Cat. #AP7047a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the PRKACB gene.

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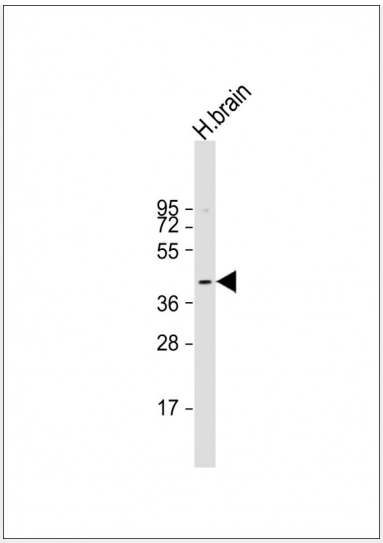
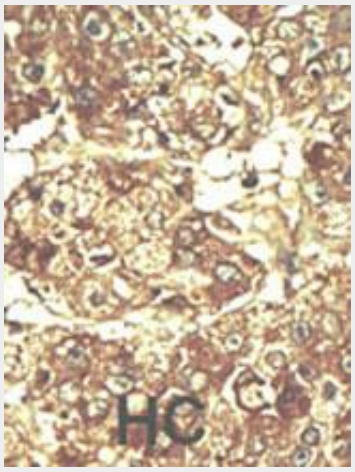


Anti-PRKACB Antibody (K29) at 1:1000 dilution + human brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 41 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

PKA C-beta (PRKACB) Antibody (N-term) - Background

cAMP is a signaling molecule important for a variety of cellular functions. cAMP exerts its effects by activating the cAMP-dependent protein kinase (AMPK), which transduces the signal through phosphorylation of different target proteins. The inactive holoenzyme of AMPK is a tetramer composed of two regulatory and 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. Four different regulatory subunits and three catalytic subunits of AMPK have been identified in humans. PRKACB is a member of the Ser/Thr protein kinase family and is a catalytic subunit of AMPK.

PKA C-beta (PRKACB) Antibody (N-term) - References

Dwivedi, Y., et al., Biol. Psychiatry 55(3):234-243 (2004).
Cartier, C., et al., J. Biol. Chem. 278(37):35211-35219 (2003).
Higuchi, H., et al., EMBO J. 22(8):1790-1800 (2003).

Wu, K.J., et al., Oncogene 21(51):7872-7882 (2002).
Jiang, C.H., et al., Proc. Natl. Acad. Sci. U.S.A. 98(4):1930-1934 (2001).