

**PKA C-beta (PRKACB) Antibody (N-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7047a**

**Specification**

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

Application	WB, IHC-P,E
Primary Accession	<a href="#">P22694</a>
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

**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

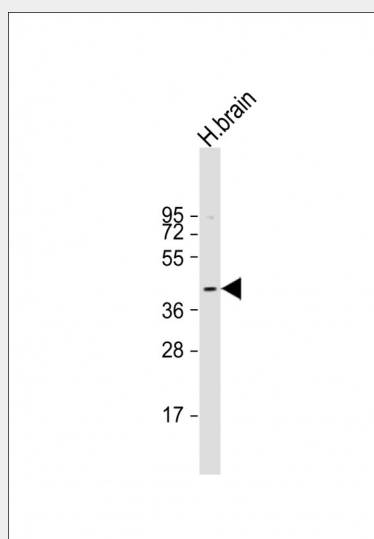
Isoform 1 is most abundant in the brain, with low level expression in kidney. Isoform 2 is predominantly expressed in thymus, spleen and kidney. Isoform 3 and isoform 4 are only expressed in the brain.

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

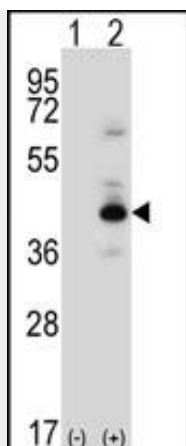
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

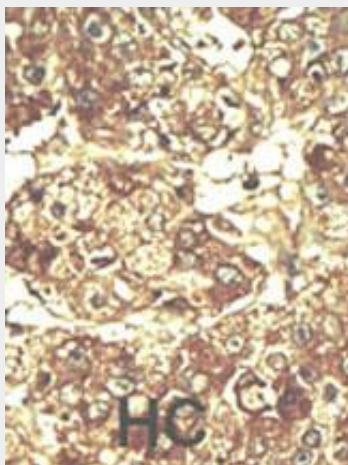
### PKA C-beta (PRKACB) Antibody (N-term) - Images



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% NFD/MTBST.



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.



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).