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PKA C beta Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51447

Product Information

Application	WB, IHC-P
Primary Accession	P22694
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40623

Additional Information

Gene ID	5567
Other Names	cAMP-dependent protein kinase catalytic subunit beta, PKA C-beta, PRKACB
Dilution	WB~~1:1000 IHC-P~~N/A
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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.

Background

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

References

Beebe S.J.,et al.Mol. Endocrinol. 4:465-475(1990).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Totoki Y.,et al.Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gregory S.G.,et al.Nature 441:315-321(2006).