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Anti-PKA C beta Antibody

Catalog # AP51447

Product Information

Application	WB, IHC
Primary Accession	P22694
Reactivity	Human, Mouse, Rat, Pig, Chicken, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40623

Additional Information

Gene ID	5567
Other Names	cAMP-dependent protein kinase catalytic subunit beta; PKA C-beta
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human PKA C beta. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
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}

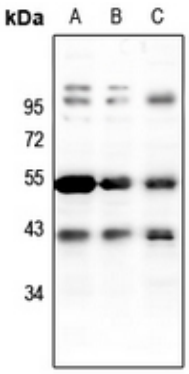
Tissue Location

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.

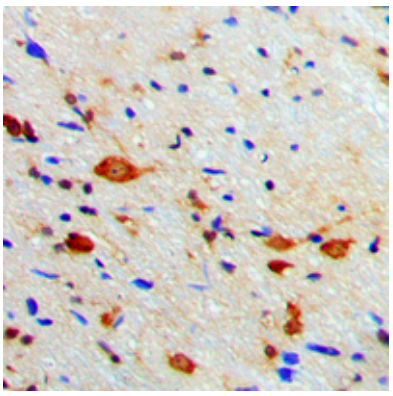
References

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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).

Images



Western blot analysis of PKA C beta expression in K562 (A), A549 (B), C6 (C) whole cell lysates. (Predicted band size: 40 kD; Observed band size: 43 kD)



Immunohistochemical analysis of PKA C beta staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Citations

- Expression of protein kinase A catalytic subunits in healthy and diseased mouse kidneys.

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