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GRK4 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7006a

Product Information

Application	WB, IHC-P, E
Primary Accession	P32298
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	66583
Antigen Region	549-577

Additional Information

Gene ID	2868
Other Names	G protein-coupled receptor kinase 4, G protein-coupled receptor kinase GRK4, ITI1, GRK4, GPRK2L, GPRK4
Target/Specificity	This GRK4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 549-577 amino acids from the C-terminal region of human GRK4.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	GRK4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRK4
Synonyms	GPRK2L, GPRK4
Function	Specifically phosphorylates the activated forms of G protein- coupled receptors. GRK4-alpha can phosphorylate rhodopsin and its activity is inhibited by calmodulin; the other three isoforms do not phosphorylate

	rhodopsin and do not interact with calmodulin. GRK4-alpha and GRK4-gamma phosphorylate DRD3. Phosphorylates ADRB2.
Cellular Location	Cytoplasm. Cytoplasm, cell cortex. Note=Both at the cell surface and dispersed in the cytoplasm under basal conditions Receptor stimulation results in the internalization of GRK4 to the perinuclear area, where colocalization with DRD3 is observed strongly at 5 and 15 minutes. DRD3 and GRK4 colocalize in lipid rafts of renal proximal tubule cells
Tissue Location	Isoform 1, isoform 2, isoform 3, and isoform 4 are expressed in testis. Isoform 4 is expressed in myometrium

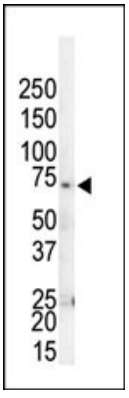
Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The AGC kinase group consists of 63 kinases including the cyclic nucleotide-regulated protein kinase (PKA & PKG) family, the diacylglycerol-activated/phospholipid-dependent protein kinase C (PKC) family, the related to PKA and PKC (RAC/Akt) protein kinase family, the kinases that phosphorylate G protein-coupled receptors family (ARK), and the kinases that phosphorylate ribosomal protein S6 family (RSK).

References

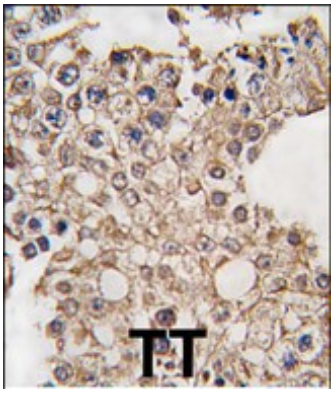
Perroy, J., et al., EMBO J. 22(15):3816-3824 (2003).
Watanabe, H., et al., Kidney Int. 62(3):790-798 (2002).
Sallese, M., et al., J. Biol. Chem. 272(15):10188-10195 (1997).
Premont, R.T., et al., J. Biol. Chem. 271(11):6403-6410 (1996).
Sallese, M., et al., Biochem. Biophys. Res. Commun. 199(2):848-854 (1994).

Images



Western blot analysis of anti-GRK4 Pab (Cat. #AP7006a) in HL60 cell lysate. GRK4 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

Formalin-fixed and paraffin-embedded human testis tissue reacted with GRK4 antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Citations

- G protein-coupled receptor kinase 4 (GRK4) regulates the phosphorylation and function of the dopamine D3 receptor.