

ADRBK1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7004a

Product Information

Application	WB, IHC-P, E
Primary Accession	P25098
Other Accession	P26817 , Q99MK8 , P21146
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	79574
Antigen Region	633-660

Additional Information

Gene ID	156
Other Names	Beta-adrenergic receptor kinase 1, Beta-ARK-1, G-protein coupled receptor kinase 2, ADRBK1, BARK, BARK1, GRK2
Target/Specificity	This ADRBK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 633-660 amino acids from the C-terminal region of human ADRBK1.
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	ADRBK1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRK2 (HGNC:289)
Synonyms	ADRBK1, BARK, BARK1
Function	Specifically phosphorylates the agonist-occupied form of the

beta-adrenergic and closely related receptors, probably inducing a desensitization of them (PubMed:[19715378](#)). Key regulator of LPAR1 signaling (PubMed:[19306925](#)). Competes with RALA for binding to LPAR1 thus affecting the signaling properties of the receptor (PubMed:[19306925](#)). Desensitizes LPAR1 and LPAR2 in a phosphorylation- independent manner (PubMed:[19306925](#)). Positively regulates ciliary smoothened (SMO)-dependent Hedgehog (Hh) signaling pathway by facilitating the trafficking of SMO into the cilium and the stimulation of SMO activity (By similarity). Inhibits relaxation of airway smooth muscle in response to blue light (PubMed:[30284927](#)).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:P26817}. Cell membrane {ECO:0000250|UniProtKB:P21146}. Postsynapse {ECO:0000250|UniProtKB:P26817}. Presynapse {ECO:0000250|UniProtKB:P26817}

Tissue Location

Expressed in peripheral blood leukocytes.

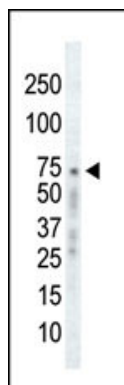
Background

Beta-adrenergic receptor kinase (ADRBK1), also known as GRK2, phosphorylates the beta-2-adrenergic receptor and appears to mediate agonist-specific desensitization observed at high agonist concentrations. ADRBK1 is an ubiquitous cytosolic enzyme that specifically phosphorylates the activated form of the beta-adrenergic and related G-protein-coupled receptors. Heart failure is accompanied by severely impaired beta-adrenergic receptor (beta-AR) function. An important mechanism for the rapid desensitization of beta-AR function is agonist-stimulated receptor phosphorylation by the beta-AR kinase (beta-ARK1), an enzyme known to be elevated in failing human heart tissue. Abnormal coupling of beta-adrenergic receptor to G protein is involved in the pathogenesis of the failing heart.

References

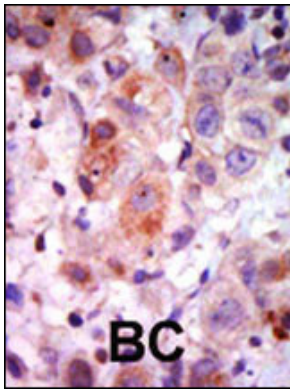
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Yang, X.L., et al., World J. Gastroenterol. 9(4):800-803 (2003).
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Eichmann, T., et al., J. Biol. Chem. 278(10):8052-8057 (2003).

Images

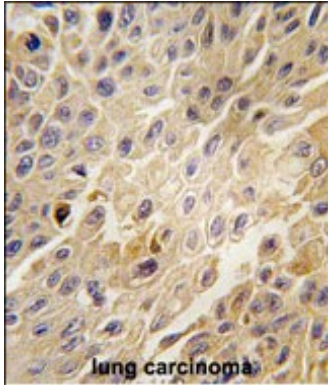


Western blot analysis of anti-GRK2 C-term Pab (Cat. #AP7004a) in Ramos cell lysate. GRK2 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

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.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with GRK2 Antibody (C-term) (Cat.#AP7004a), 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

- [Decreased GRK3 but not GRK2 expression in frontal cortex from bipolar disorder patients.](#)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.