

ADRBK1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP7004a

Product Information

Application WB, IHC-P, E **Primary Accession** P25098

Other Accession <u>P26817</u>, <u>Q99MK8</u>, <u>P21146</u>

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 (<u>HGNC:289</u>)

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.

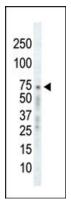
Background

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

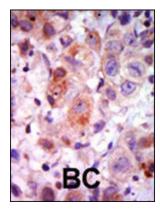
Li, J., et al., J. Biol. Chem. 278(32):30219-30226 (2003). Wan, K.F., et al., J. Biol. Chem. 278(20):18658-18663 (2003). Yang, X.L., et al., World J. Gastroenterol. 9(4):800-803 (2003). Hagen, S.A., et al., Anesthesiology 98(2):343-348 (2003). Eichmann, T., et al., J. Biol. Chem. 278(10):8052-8057 (2003).

Images

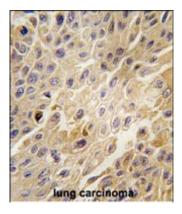


Western blot analysis of anti-GRK2 C-term Pab (Cat. #AP7004a) in Ramos cell lysate. GRK2 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

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'.