10320 Camino Santa Fe, Suite A
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ADRBK1 Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP7004a

Specification

ADRBK1 Antibody (C-term) Blocking peptide - Product Information

Primary Accession P25098

ADRBK1 Antibody (C-term) Blocking peptide - 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
The synthetic peptide sequence used to generate the antibody AP7004a was selected from the C-term region of human GRK2 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ADRBK1 Antibody (C-term) Blocking peptide - 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). Phosphorylates catecholamine-activated ADRB2 to regulate physiological cardiomyocyte contraction rate responses (By similarity). Also phosphorylates ligand- bound C3a and C5a anaphylatoxin receptors (C3AR1 and C5AR1, respectively), leading to receptor desensitization (PubMed:21799898, PubMed:23077507). Key regulator of LPAR1 signaling (PubMed:<a href="http://www.uniprot.org/citations/19306925"

target="_blank">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.

ADRBK1 Antibody (C-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

ADRBK1 Antibody (C-term) Blocking peptide - Images

ADRBK1 Antibody (C-term) Blocking peptide - 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.

ADRBK1 Antibody (C-term) Blocking peptide - 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).