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GRK2 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52726

Product Information

Primary Accession	P25098
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	79574

Additional Information

Gene ID	156
Other Names	ADRBK 1;ADRBK1;Adrenergic beta receptor kinase 1;Adrenergic beta receptor kinase 1; ARBK1_HUMAN;BARK 1;BARK;BARK1;Beta adrenergic receptor kinase 1;Beta ARK 1;Beta ARK1; Beta-adrenergic receptor kinase 1;Beta-ARK-1;FLJ16718;G Protein Coupled Receptor Kinase 2;G protein dependent receptor kinase 2;G-protein coupled receptor kinase 2;GRK 2;GRK2.
Format	Purified mouse monoclonal in buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.09% (W/V) sodium azide, 50%,glycerol
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	GRK2 {ECO:0000303|PubMed:40384633, ECO:0000312|HGNC:HGNC:289}
Function	Specifically phosphorylates the activated forms of G protein- coupled receptors (PubMed:14976224, PubMed:16179383, PubMed:19306925, PubMed:19715378, PubMed:21799898, PubMed:23077507, PubMed:30284927, PubMed:33859231, PubMed:39138140, PubMed:40384633). Such receptor phosphorylation initiates beta-arrestin-mediated receptor internalization, and signaling events leading to their desensitization (PubMed:14976224, PubMed:16179383, PubMed:19306925, PubMed:19715378, PubMed:21799898, PubMed:23077507, PubMed:30284927, PubMed:33859231, PubMed:39138140, PubMed:40384633). 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). Positively regulates ciliary smoothened (SMO) signaling pathway by mediating phosphorylation of SMO, facilitating SMO trafficking into the cilium and the stimulation of SMO activity (PubMed:39138140). Also positively regulates SMO signaling by mediating phosphorylation of GPR161, a key inhibitor SMO signaling, promoting ciliary export of GPR161 (PubMed:40384633). 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). Inhibits relaxation of airway smooth muscle in response to blue light (PubMed:30284927). Also able to mediate phosphorylation-independent desensitization of dopamine receptor DRD2 (By similarity).

Cellular Location

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

Tissue Location

Expressed in peripheral blood leukocytes.

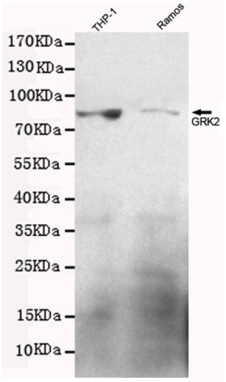
Background

Specifically phosphorylates the agonist-occupied form of the beta-adrenergic and closely related receptors, probably inducing a desensitization of them. Key regulator of LPAR1 signaling. Competes with RALA for binding to LPAR1 thus affecting the signaling properties of the receptor. Desensitizes LPAR1 and LPAR2 in a phosphorylation-independent manner.

References

Benovic J.L.,et al.FEBS Lett. 283:122-126(1991).
Chuang T.T.,et al.J. Biol. Chem. 267:6886-6892(1992).
Penn R.B.,et al.J. Biol. Chem. 269:14924-14930(1994).
Aragay A.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 95:2985-2990(1998).
Oppermann M.,et al.J. Biol. Chem. 274:8875-8885(1999).

Images



Western blot detection of GRK2 in Ramos and THP-1 cell lysates using GRK2 mouse mAb (1:500 diluted),with super ECL.Predicted band size:80KDa.Observed band size:80KDa.Exposure time:20S.

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