

Ras Homolog Gene Family, Member B (RHOB)

ID: 20-372-60275

Size: 0.1 mg

Source: Mouse

Reactivity: Human

Details for ras homolog gene family, member B (RHOB)

Clone: 2916C2a

IGG Subclass: IgG1

Preparation: This antibody was purified using protein G column chromatography from culture supernatant of hybridoma cultured in a medium containing bovine IgG-depleted (approximately 95%) fetal bovine serum.

Sterility: Filtered through a 0.22 um membrane.

Function: Mediates apoptosis in neoplastically transformed cells after DNA damage. Not essential for development but affects cell adhesion and growth factor signaling in transformed cells. Plays a negative role in tumorigenesis as deletion causes tumor formation. Involved in intracellular protein trafficking of a number of proteins. Targets PKN1 to endosomes and is involved in trafficking of the EGF receptor from late endosomes to lysosomes. Also required for stability and nuclear trafficking of AKT1/AKT which promotes endothelial cell survival during vascular development.

Subunit: Binds ROCK1 and ROCK2. Also binds PKN1/PRK1. Interacts with ARGGEF3, RTKN and AKAP13.

Subcellular Location: Late endosome membrane; Lipid-anchor. Cell membrane; Lipid-anchor. Nucleus. Note=Late endosomal membrane (geranylgeranylated form). Plasma membrane (farnesylated form). Also detected at the nuclear margin and in the nucleus.

Ptm: Prenylation specifies the subcellular location of RHOB. The farnesylated form is localized to the plasma membrane while the geranylgeranylated form is localized to the endosome.

Miscellaneous: RHOB is one of the targets of farnesyltransferase inhibitors which are currently under investigation as cancer therapeutics. These elevate the levels of geranylgeranylated RHOB and cause mislocalization, leading to apoptosis and antineoplastic effects.

Similarity: Belongs to the small GTPase superfamily. Rho family.

[1] Wallar,B.J., Deward,A.D., Resau,J.H. and Alberts,A.S., et al.

RhoB and the mammalian Diaphanous-related formin mDia2 in endosome trafficking

[2] Sato,N., Fukui,T., Taniguchi,T., Yokoyama,T., Kondo,M., Nagasaka,T., Goto,Y., Gao,W., Ueda,Y., Yokoi,K., Minna,J.D., et al.

RhoB is frequently downregulated in non-small-cell lung cancer and resides in the 2p24 homozygous deletion region of a lung cancer cell line

[3] Loughlin,J., Meulenbelt,I., Min,J., Mustafa,Z., Sinsheimer,J.S., Carr,A. and Slagboom,P.E.

Genetic association analysis of RHOB and TXNDC3 in osteoarthritis

[4] Steuve,S., Devosse,T., Lauwers,E., Vanderwinden,J.M., Andre,B., Courtoy,P.J. and Pirson,I.

Rhophilin-2 is targeted to late-endosomal structures of the vesicular machinery in the presence of activated RhoB

[5] Chen,Y.X., Li,Z.B., Diao,F., Cao,D.M., Fu,C.C. and Lu,J., et al.

Up-regulation of RhoB by glucocorticoids and its effects on the cell proliferation and NF-kappaB transcriptional activity

[6] Chardin P., Madaule P., Tavitian A.

Coding sequence of human rho cDNAs clone 6 and clone 9.

[7] Puhl H.L. III, Ikeda S.R., Aronstam R.S.

cDNA clones of human proteins involved in signal transduction sequenced by the Guthrie cDNA resource center (www.cdna.org).

[8] Halleck A., Ebert L., Mkoundinya M., Schick M., Eisenstein S., Neubert P., Kstrang K., Schatten R., Shen B., Henze S., et al.

Cloning of human full open reading frames in Gateway(TM) system entry vector (pDONR201).

[9] Kalnine N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S., Koundinya M., Raphael J., Moreira D., Kelley T., et al.

Cloning of human full-length CDSs in BD Creator(TM) system donor vector.

[10] Hillier L.W., Graves T.A., Fulton R.S., Fulton L.A., Pepin K.H., Minx P., Wagner-McPherson C., Layman D., Wylie K., Sekhon M., et al.

Generation and annotation of the DNA sequences of human chromosomes 2 and 4.

Related Product Names	Mouse monoclonal anti-human RHOB antibody; H6 ARH6;ARHB; RHOH6; MST081; MSTP081ras homolog gene family, member B (RHOB)RHOB
NCBI Acc Number	NM_004040.2
GI Number	42716309
Format	Mouse monoclonal anti-human RHOB antibody in PBS (3.0 mM KCl, 1.5 mM K ₂ HPO ₄ , 140 mM NaCl, 8.0 mM Na ₂ HPO ₄ (pH 7.4)) containing 1% bovine serum albumin (BSA) and 0.05% sodium azide (NaN ₃).
Clonality	Monoclonal
Storage	Store at 2-8 C for up to one year. We recommend storing at -20 C for long-term storage. Avoid repeat freezing and thawing cycles.
Molecular Weight	22123
Swiss Prot Number	P62745
Applications	DB