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RAB23 Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM2026b

Product Information

Application	WB, FC, IF, E
Primary Accession	Q9ULC3
Other Accession	NP_057361.3, NP_899050.1
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	427CT2.1.1
Calculated MW	26659

Additional Information

Gene ID	51715
Other Names	Ras-related protein Rab-23, RAB23
Target/Specificity	Purified His-tagged RAB23 protein(Fragment) was used to produced this monoclonal antibody.
Dilution	WB~~1:100~1000 FC~~1:25 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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	RAB23 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RAB23 (HGNC:14263)
Function	The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes. Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is able to recruit to membranes different set of downstream effectors directly responsible for vesicle formation, movement,

tethering and fusion. In conjunction with IFT57 and KIF17, it drives the localization of specific G protein-coupled receptors, such as the dopamime receptor DRD1, to primary cilia (PubMed:26182404). Has a critical role in the formation and elongation of neuronal primary cilia, thereby impacting the activation of sonic hedgehog (Shh) signaling (PubMed:40825043). Additionally, it is involved in the down-regulation of Shh signaling by cooperating with SUFU to prevent the nuclear import of GLI1 transcription factor, thus suppressing its transcriptional activity (PubMed:22365972) (PubMed:39615683). Regulates GLI1 in differentiating chondrocytes. Likewise, regulates GLI3 proteolytic processing and modulates GLI2 and GLI3 transcription factor activity. Plays a role in autophagic vacuole assembly, and mediates defense against pathogens, such as S.aureus, by promoting their capture by autophagosomes that then merge with lysosomes (PubMed:22452336).

Cellular Location

Cell membrane {ECO:0000250|UniProtKB:P35288}; Lipid-anchor; Cytoplasmic side {ECO:0000250|UniProtKB:P35288}. Cytoplasm. Cytoplasmic vesicle, autophagosome. Endosome membrane {ECO:0000250, ECO:0000250|UniProtKB:P35288}. Cytoplasmic vesicle, phagosome. Cytoplasmic vesicle, phagosome membrane; Lipid-anchor; Cytoplasmic side. Note=Recruited to phagosomes containing S.aureus or M.tuberculosis.

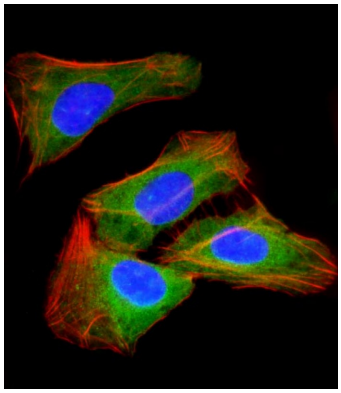
Background

The protein encoded by this gene belongs to the small GTPase superfamily, Rab family. It may be involved in small GTPase mediated signal transduction and intracellular protein transportation. Alternative splicing occurs at this locus and two transcript variants encoding the same protein have been identified.

References

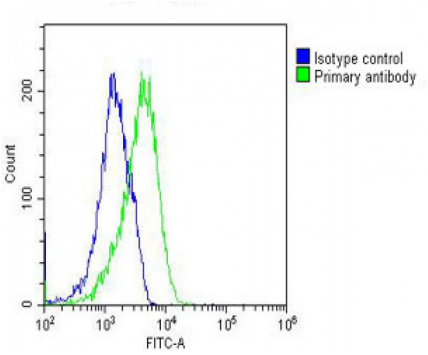
Alessandri, J.L., et al. Am. J. Med. Genet. A 152A (4), 982-986 (2010) :
Hou, Q., et al. Cancer Res. 68(12):4623-4630(2008)
Ng, E.L., et al. Brain Res Rev 58(1):236-246(2008)
Jenkins, D., et al. Am. J. Hum. Genet. 80(6):1162-1170(2007)
Liu, Y.J., et al. World J. Gastroenterol. 13(7):1010-1017(2007)

Images

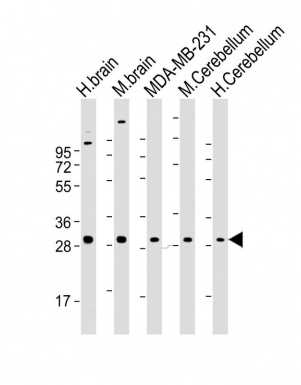


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized U-2 OS (human osteosarcoma cell line) cells labeling RAB23 with AM2026a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG (174309) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on U-2 OS cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).The nuclear counter stain is DAPI (blue).

Overlay histogram showing U-2 OS cells stained with AM2026a(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific



protein-protein interactions followed by the antibody (AM2026a, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(NH174309) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was mouse IgG1(1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



All lanes : Anti-RAB23 Antibody at 1:2000 dilution Lane 1: human brain lysate Lane 2: mouse brain lysate Lane 3: MDA-MB-231 whole cell lysate Lane 4: mouse Cerebellum lysate Lane 5: human Cerebellum lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 27 kDa Blocking/Dilution buffer: 5% NFDM/TBST.