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RAB27A Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1944a

Product Information

Application	WB, IHC, E
Primary Accession	P51159
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7D7C9
Isotype	IgG2b
Calculated MW	24868
Description	The protein encoded by this gene belongs to the small GTPase superfamily, Rab family. The protein is membrane-bound and may be involved in protein transport and small GTPase mediated signal transduction. Mutations in this gene are associated with Griscelli syndrome type 2. Alternative splicing occurs at this locus and four transcript variants encoding the same protein have been identified.
Immunogen	Purified recombinant fragment of human RAB27A (AA: FULL(1-221)) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	5873
Other Names	Ras-related protein Rab-27A, Rab-27, GTP-binding protein Ram, RAB27A, RAB27
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RAB27A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RAB27A (HGNC:9766)
Synonyms	RAB27

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 sets of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion (PubMed:30771381). RAB27A regulates homeostasis of late endocytic pathway, including endosomal positioning, maturation and secretion (PubMed:30771381). Plays a role in cytotoxic granule exocytosis in lymphocytes. Required for both granule maturation and granule docking and priming at the immunologic synapse (PubMed:18812475).
Cellular Location	Membrane; Lipid-anchor. Melanosome. Late endosome. Lysosome. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:12643545, PubMed:17081065). Localizes to endosomal exocytic vesicles (PubMed:17237785).
Tissue Location	Found in all the examined tissues except in brain. Low expression was found in thymus, kidney, muscle and placenta Detected in melanocytes, and in most tumor cell lines examined Expressed in cytotoxic T-lymphocytes (CTL) and mast cells

Background

C17orf53 (chromosome 17 open reading frame 53) is a 647 amino acid protein that is encoded by a gene mapping to human chromosome 17. Chromosome 17 makes up over 2.5% of the human genome with about 81 million bases encoding over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes. Chromosome 17 is also linked to neurofibromatosis, a condition characterized by neural and epidermal lesions, and dysregulated Schwann cell growth. Alexander disease, Birt-Hogg-Dube syndrome and Canavan disease are also associated with chromosome 17. ; ;

References

1. PLoS One. 2012;7(7):e41160.2. J Biol Chem. 2011 Feb 18;286(7):5375-82.

Images

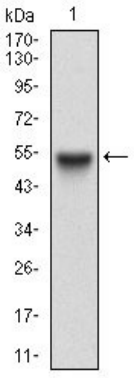
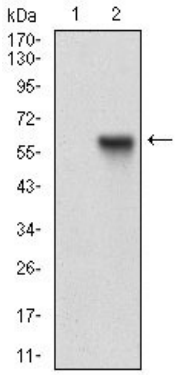


Figure 1: Western blot analysis using RAB27A mAb against human RAB27A (AA: FULL(1-221)) recombinant protein. (Expected MW is 50.8 kDa)

Figure 2: Western blot analysis using RAB27A mAb against HEK293 (1) and RAB27A (AA: FULL(1-221))-hIgGFc transfected HEK293 (2) cell lysate.



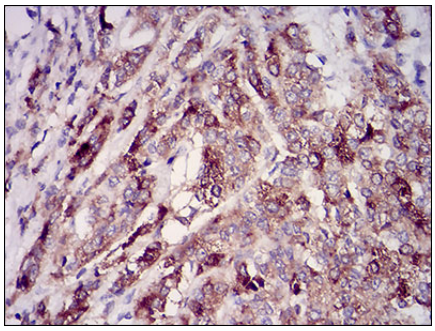


Figure 3: Immunohistochemical analysis of paraffin-embedded prostate cancer tissues using RAB27A mouse mAb with DAB staining.

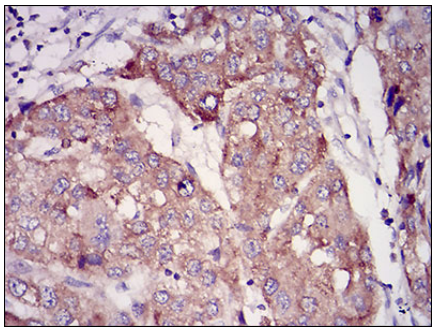


Figure 4: Immunohistochemical analysis of paraffin-embedded liver cancer tissues using RAB27A mouse mAb with DAB staining.