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PLEKHM1 Antibody
Catalog # ASC11015

Specification

PLEKHM1 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	Q9Y4G2
Other Accession	Q9Y4G2, 160419247
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**PLEKHM1 antibody can be used for detection of PLEKHM1 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**

PLEKHM1 Antibody - Additional Information

Gene ID	**9842**

Target/Specificity
PLEKHM1;

Reconstitution & Storage
PLEKHM1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
PLEKHM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PLEKHM1 Antibody - Protein Information

Name PLEKHM1 (HGNC:29017)

Synonyms KIAA0356

Function
Acts as a multivalent adapter protein that regulates Rab7- dependent and HOPS complex-dependent fusion events in the endolysosomal system and couples autophagic and the endocytic trafficking pathways. Acts as a dual effector of RAB7A and ARL8B that simultaneously binds these GTPases, bringing about clustering and fusion of late endosomes and lysosomes (PubMed:25498145, PubMed:28325809). Required for late stages of endolysosomal maturation, facilitating both endocytosis- mediated degradation of growth factor receptors and autophagosome clearance. Interaction with Arl8b is a crucial factor in the terminal maturation of autophagosomes and to mediate

autophagosome-lysosome fusion (PubMed:25498145). Positively regulates lysosome peripheral distribution and ruffled border formation in osteoclasts (By similarity). May be involved in negative regulation of endocytic transport from early endosome to late endosome/lysosome implicating its association with Rab7 (PubMed:20943950). May have a role in sialyl-lex- mediated transduction of apoptotic signals (PubMed:12820725). Involved in bone resorption (By similarity).

Cellular Location
Autolysosome membrane. Endosome membrane. Late endosome membrane. Lysosome membrane. Note=In case of infection colocalizes with Salmonella typhimurium sifA in proximity of Salmonella-containing vacuole (SCV) (PubMed:25500191).

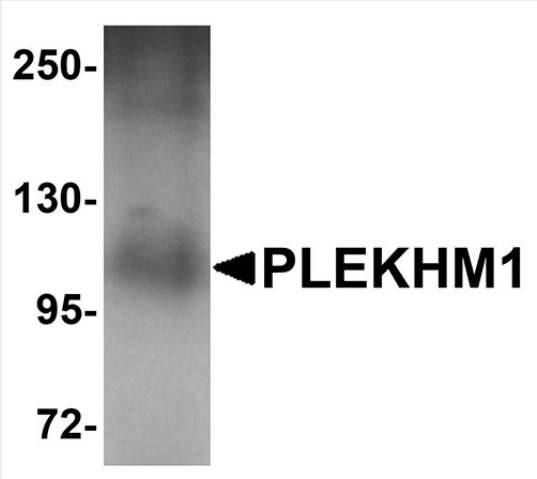
Tissue Location
Expressed in placenta, liver, prostate, thymus, spleen, ovary, colon, colon carcinoma and peripheral blood lymphocytes (PBL). Weakly expressed in brain, lung, kidney, and testis. No expression in heart, skeletal muscle, pancreas and small intestine Predominantly expressed in the breast carcinoma cell line MCF-7

PLEKHM1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PLEKHM1 Antibody - Images



Western blot analysis of PLEKHM1 in human lung tissue lysate with PLEKHM1 antibody at 1 µg/mL.

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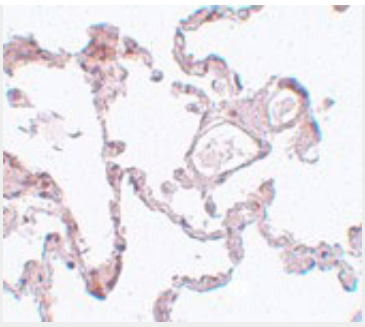
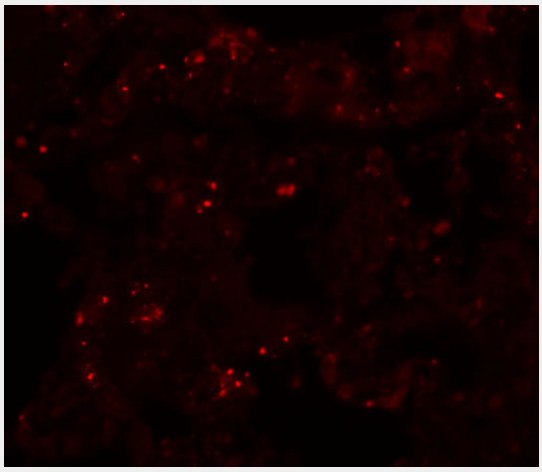


Immunohistochemistry of PLEKHM1 in human lung tissue with PLEKHM1 antibody at 5 µg/mL.



Immunofluorescence of PLKHM1 in human lung tissue with PLKHM1 antibody at 20 µg/mL.

PLEKHM1 Antibody - Background

PLEKHM1 Antibody: PLEKHM1 is a member of the M family of Pleckstrin homolog domain-containing proteins, a group of proteins containing a RUN domain, two pleckstrin homology domains, and a cysteine-rich domain. It was identified through segregation analysis as a cause of osteopetrosis in humans. PLEKHM1 co-localizes with Rab7 to late endosomal/lysosomal vesicles in HEK293 and osteoclast-like cells, with this co-localization dependent on the prenylation of Rab7. Monocytes from a patient homozygous for a mutated form of PLEKHM1differentiated into osteoclasts normally, but failed to form ruffled borders and showed little evidence of bone resorbtion when cultured on dentine discs. Another mutation of PLEKHM1 impaired vesicular acidification and increased TRACP secretion in osteoclasts, suggesting that PLEKHM1 has critical roles in endosomal maturation and may be important in osteoclast-osteoblast cross-talk.

PLEKHM1 Antibody - References

Van Wesenbeeck L, Odgren PR, Mackay CA, et al. Localization of the gene causing the osteopetrotic phenotype in the incisors absent (ia) rat on chromosome 10q32.1. J. Bone Miner. Res.2004; 19:183-9.
Van Wesenbeeck L, Odgren PR, Coxon FP, et al. Involvement of PLEKHM1 in osteoclastic vesicular transport and osteopetrosis in incisors absent rats and humans. J. Clin. Invest.2007; 117:919-30.
Del Fattore A, Fornari R, Van Wesenbeeck L, et al. A new heterozygous mutation (R714C) of the osteopetrosis gene, pleckstrin homolog domain containing family M (with run domain) member 1 (PLEKHM1), impairs vesicular acidification and increases TRACP secretion in osteoclasts. J. Bone Miner. Res.2008; 23:380-91.