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VPS53 Antibody

Catalog # ASC10687

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q5VIR6
Other Accession	EAW90658, 119611064
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	94405
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	VPS53 antibody can be used for detection of VPS53 by Western blot at 0.5 - 1 g/mL. Antibody can also be used for immunocytochemistry starting at 5 g/mL. For immunofluorescence start at 2.5 g/mL.

Additional Information

Gene ID	55275
Other Names	Vacuolar protein sorting-associated protein 53 homolog, VPS53
Target/Specificity	VPS53;
Reconstitution & Storage	VPS53 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	VPS53 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	VPS53
Function	Acts as a component of the GARP complex that is involved in retrograde transport from early and late endosomes to the trans-Golgi network (TGN). The GARP complex is required for the maintenance of the cycling of mannose 6-phosphate receptors between the TGN and endosomes, this cycling is necessary for proper lysosomal sorting of acid hydrolases such as CTSD (PubMed:15878329, PubMed:18367545). Acts as a component of the EARP complex that is involved in endocytic recycling. The EARP complex associates with Rab4-positive endosomes and promotes recycling of internalized transferrin receptor (TFRC) to the plasma membrane (PubMed:25799061).

Cellular Location	Golgi apparatus, trans-Golgi network membrane; Peripheral membrane protein. Endosome membrane; Peripheral membrane protein. Recycling endosome. Note=Localizes to the trans-Golgi network as part of the GARP complex, while it localizes to recycling endosomes as part of the EARP complex (PubMed:25799061)

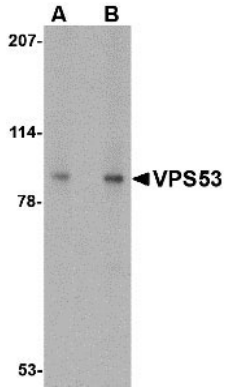
Background

VPS53 Antibody: The sorting of acid hydrolases to lysosomes rely on mannose 6-phosphate receptors that cycle between the trans-Golgi network (TGN) and endosomes. The maintenance of this cycle requires the function of the mammalian Golgi-associated retrograde protein (GARP) complex which is composed of three subunits: VPS52, VPS53, and VPS54. Depletion of any of these three proteins, such as by RNAi, impairs the retrograde transport of multiple TGN proteins. VPS53 was identified as an HIV dependency factor (HDF) and plays a role in viral entry to the cell, suggesting that VPS53 may be an important drug target in HIV treatment. At least five isoforms of VPS53 are known to exist.

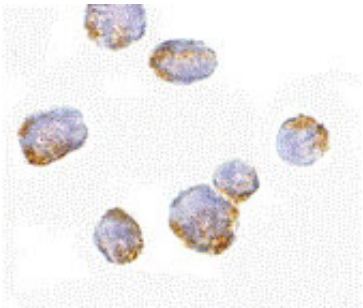
References

Pfeffer SR. Targeting of proteins to the lysosome. Curr. Top. Microbiol. Immunol.1991; 170:43-65.
Liewen H, Meinhold-Heerlein I, Oliveira V, et al. Characterization of the human GARP (Golgi associated retrograde protein) complex. Exp. Cell Res.2005; 306:22-34.
Perez-Victoria FJ, Mardones GA, and Bonifacino JS. Requirement of the human GARP complex for mannose 6-phosphate-receptor-dependent sorting of cathepsin D to lysosomes. Mol. Biol. Cell2008; 19:2350-62.
Brass AL, Dykxhoorn DM, Benita Y, et al. Identification of host proteins required for HIV infection through a functional genomic screen. Science2008; 319:921-6.

Images

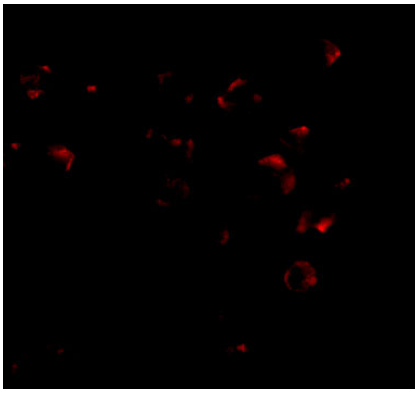


Western blot analysis of VPS53 in 293 cell lysate with VPS53 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunocytochemistry of VPS53 in 293 cells with VPS53 antibody at 5 µg/mL.

Immunofluorescence of VPS53 in 293 cells with VPS53 antibody at 2.5 µg/mL.



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