

**GOLPH3 Antibody**  
Catalog # ASC10997**Specification**

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**GOLPH3 Antibody - Product Information**

Application	WB, IF
Primary Accession	<a href="#">Q9H4A6</a>
Other Accession	<a href="#">AAH12123</a> , <a href="#">15082415</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	GOLPH3 antibody can be used for detection of GOLPH3 by Western blot at 0.5 - 1 µg/mL. For immunofluorescence start at 20 µg/mL.

**GOLPH3 Antibody - Additional Information**

Gene ID	64083
Target/Specificity	
GOLPH3;	

**Reconstitution & Storage**

GOLPH3 antibody can be stored at 4°C for three months and -20°C, 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**

GOLPH3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**GOLPH3 Antibody - Protein Information**

**Name** GOLPH3

**Synonyms** GPP34

**Function**

Phosphatidylinositol-4-phosphate-binding protein that links Golgi membranes to the cytoskeleton and may participate in the tensile force required for vesicle budding from the Golgi. Thereby, may play a role in Golgi membrane trafficking and could indirectly give its flattened shape to the Golgi apparatus. May also bind to the coatomer to regulate Golgi membrane trafficking. May play a role in anterograde transport from the Golgi to the plasma membrane and regulate secretion. Has also been involved in the control of the localization of Golgi enzymes through interaction with their cytoplasmic part. May play an indirect role in cell migration. Has also been involved in the modulation of mTOR signaling. May also be involved in the regulation of mitochondrial lipids biosynthesis.

### Cellular Location

Golgi apparatus, Golgi stack membrane; Peripheral membrane protein; Cytoplasmic side. Golgi apparatus, trans-Golgi network membrane; Peripheral membrane protein; Cytoplasmic side Mitochondrion intermembrane space. Cell membrane Endosome. Note=Phosphatidylinositol 4-phosphate-binding and oligomerization participate in the recruitment onto Golgi membranes.

### Tissue Location

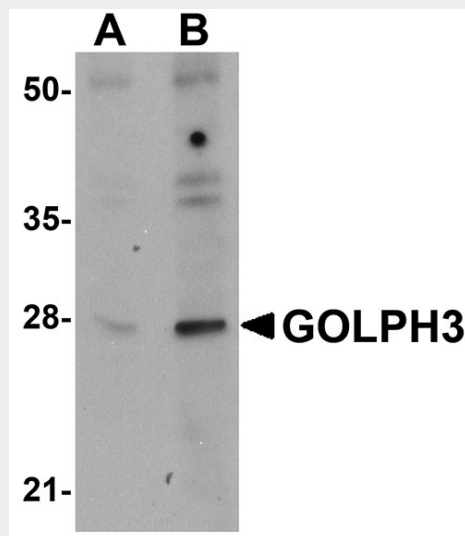
Detected in muscle fibers of patients with mitochondrial diseases; not detected in normal muscle fibers

### GOLPH3 Antibody - Protocols

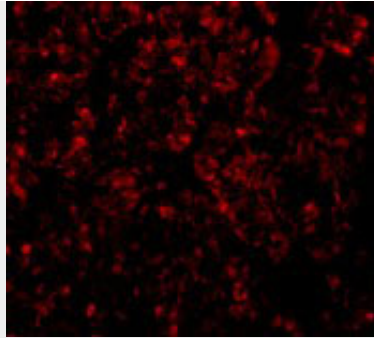
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### GOLPH3 Antibody - Images



Western blot analysis of GOLPH3 in rat lung tissue lysate with GOLPH3 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunofluorescence of GOLPH3 in Rat Lung cells with GOLPH3 antibody at 20  $\mu$ g/mL.

### **GOLPH3 Antibody - Background**

**GOLPH3 Antibody:** GOLPH3 was initially identified as a peripheral membrane protein localized to the trans-Golgi network, but others reported it to be primarily a mitochondrial protein that regulated the mitochondrial mass through the regulation of the mitochondria-specific phospholipid cardiolipin. GOLPH3 has since been implicated in the target of rapamycin (TOR) signalling pathway. Its overexpression in transfected cells led to an increase in anchorage-independent growth and cell proliferation in vitro. Furthermore, GOLPH3-transfected cells enhanced S6 Kinase activity in response to growth factor stimulation by EGF. Simultaneously, AKT phosphorylation increased in these cells, while these events were abrogated in GOLPH3 siRNA treated cells compared to control cells, indicating the GOLPH3 can enhance signalling through TOR-associated complexes. These results suggest that GOLPH3 is a bona fide oncogene and may be a useful target for therapeutic strategies.

### **GOLPH3 Antibody - References**

Bell AW, Ward MA, Blackstock WP, et al. Proteomics characterization of abundant Golgi membrane proteins. *J. Biol. Chem.*2001; 276:5152-65.  
Nakashima-Kamimura N, Asoh S, Ishibashi Y, et al. MIDAS/GPP34, a nuclear gene product, regulates total mitochondrial mass in response to mitochondrial dysfunction. *J. Cell Sci.*2005; 118:5357-67.  
Scott KL, Kabbarah O, Liang M-C, et al. GOLPH3 modulates mTOR signalling and rapamycin sensitivity in cancer. *Nature*2009; 459:1085-90.