

WIPI1 Antibody
Catalog # ASC11550**Specification****WIPI1 Antibody - Product Information**

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|-------------------|---|
| Application | WB, IF |
| Primary Accession | Q5MNZ9 |
| Other Accession | NP_060453 , 157388939 |
| Reactivity | Human, Mouse, Rat |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | IgG |
| Calculated MW | 49 kDa KDa |
| Application Notes | WIPI1 antibody can be used for detection of Wipi1 by Western blot at 1 - 2 µg/mL. For immunofluorescence start at 20 µg/mL. |

WIPI1 Antibody - Additional InformationGene ID **55062****Target/Specificity**

WIPI1; At least two isoforms of WIPI1 are known to exist; this antibody will detect both isoforms.

Reconstitution & Storage

WIPI1 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

WIPI1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

WIPI1 Antibody - Protein Information**Name** WIPI1**Synonyms** WIPI49**Function**

Component of the autophagy machinery that controls the major intracellular degradation process by which cytoplasmic materials are packaged into autophagosomes and delivered to lysosomes for degradation (PubMed:15602573, PubMed:20114074, PubMed:20484055, PubMed:20639694, PubMed:23088497, PubMed:28561066, PubMed:31271352). Plays an important role in starvation- and calcium-mediated

autophagy, as well as in mitophagy (PubMed:28561066). Functions downstream of the ULK1 and PI3- kinases that produce phosphatidylinositol 3-phosphate (PtdIns3P) on membranes of the endoplasmic reticulum once activated (PubMed:28561066). Binds phosphatidylinositol 3-phosphate (PtdIns3P), and maybe other phosphoinositides including PtdIns3,5P2 and PtdIns5P, and is recruited to phagophore assembly sites at the endoplasmic reticulum membranes (PubMed:28561066, PubMed:31271352, PubMed:33499712). There, it assists WIPI2 in the recruitment of ATG12- ATG5-ATG16L1, a complex that directly controls the elongation of the nascent autophagosomal membrane (PubMed:28561066). Together with WDR45/WIPI4, promotes ATG2 (ATG2A or ATG2B)-mediated lipid transfer by enhancing ATG2-association with phosphatidylinositol 3-monophosphate (PI3P)-containing membranes (PubMed:31271352). Involved in xenophagy of *Staphylococcus aureus* (PubMed:22829830). Invading *S.aureus* cells become entrapped in autophagosome-like WIPI1 positive vesicles targeted for lysosomal degradation (PubMed:22829830). Also plays a distinct role in controlling the transcription of melanogenic enzymes and melanosome maturation, a process that is distinct from starvation-induced autophagy (PubMed:21317285). May also regulate the trafficking of proteins involved in the mannose-6-phosphate receptor (MPR) recycling pathway (PubMed:15020712).

Cellular Location

Golgi apparatus, trans-Golgi network. Endosome. Cytoplasmic vesicle, clathrin-coated vesicle. Preautophagosomal structure membrane; Peripheral membrane protein. Cytoplasm, cytoskeleton. Note=Trans elements of the Golgi and peripheral endosomes. Dynamically cycles through these compartments and is susceptible to conditions that modulate membrane flux. Enriched in clathrin-coated vesicles. Upon starvation-induced autophagy, accumulates at subcellular structures in the cytoplasm: enlarged vesicular and lasso-like structures, and large cup-shaped structures predominantly around the nucleus. Recruitment to autophagic membranes is controlled by MTMR14. Labile microtubules specifically recruit markers of autophagosome formation like WIPI1, whereas mature autophagosomes may bind to stable microtubules

Tissue Location

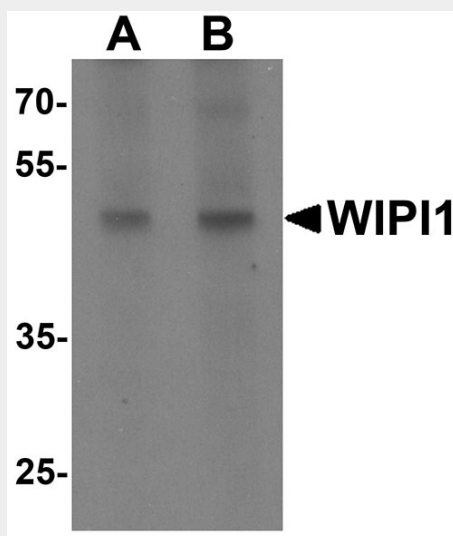
Ubiquitously expressed. Highly expressed in skeletal muscle, heart, testis, pancreas and placenta. Highly expressed in G361, Sk-mel-28, Sk-mel-13, WM852 and WM451 cells. Up-regulated in a variety of tumor tissues.

WIPI1 Antibody - Protocols

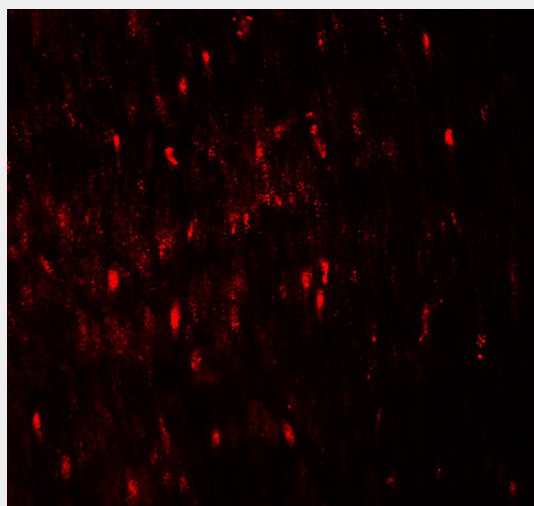
Provided below are standard protocols that you may find useful for product applications.

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

WIPI1 Antibody - Images



Western blot analysis of WIPI1 in rat colon tissue lysate with WIPI1 antibody at (A) 1 and (B) 2 $\mu\text{g/mL}$.



Immunofluorescence of WIPI1 in human colon tissue with WIPI1 antibody at 20 $\mu\text{g/mL}$.

WIPI1 Antibody - Background

WIPI1 Antibody: WIPI1 (WD repeat domain, phosphoinositide interacting-1), also known as WIPI1, ATG18 or WIPI49, is thought to play a role in autophagy and may regulate protein trafficking in certain recycling pathways. It contains three WD repeats and has a 7-bladed propeller structure with a conserved motif that facilitates its interaction with other proteins. WIPI1 localizes to cytoplasmic vesicles, endosomes, clathrin-coated vesicles and the trans-Golgi network. It is ubiquitously expressed with highest expression in heart, testis, placenta, pancreas and skeletal muscle. WIPI1 is upregulated in a variety of tumors, suggesting a role in carcinogenesis.

WIPI1 Antibody - References

Proikas-Cezanne T and Robenek H. Freeze-fracture replica immunolabelling reveals human WIPI-1 and WIPI-2 as membrane proteins of autophagosomes. *J. Cell. Mol. Med.* 2011; 15:2007-10.
Jeffries TR, Dove SK, Michell RH, et al. PtdIns-specific MPR pathway association of a novel WD40

repeat protein, WIPI49. Mol. Biol. Cell. 2004;15:2652-63.

Proikas-Cezanne T, Waddell S, Gaugel A, et al. WIPI-1 (WIPI49), a member of the novel 7-bladed WIPI protein family, is aberrantly expressed in human cancer and is linked to starvation-induced autophagy. Oncogene 2004; 23:9314-25.

Proikas-Cezanne T, Ruckebauer S, Stierhof YD, et al. Human WIPI-1 puncta-formation: a novel assay to assess mammalian autophagy. FEBS Lett. 2007; 581:3396-404.