

# WIPI1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP20115a

## **Product Information**

**Application** WB, E **Primary Accession** Q5MNZ9

Other Accession <u>Q8R3E3</u>, <u>NP 060453</u>

Reactivity Human **Predicted** Mouse Host Rabbit Clonality Polyclonal Isotype Rabbit IgG **Clone Names** RB18985 **Calculated MW** 48673 **Antigen Region** 32-59

# **Additional Information**

**Gene ID** 55062

Other Names WD repeat domain phosphoinositide-interacting protein 1, WIPI-1, Atg18

protein homolog, WD40 repeat protein interacting with phosphoinositides of

49 kDa, WIPI 49 kDa, WIPI1, WIPI49

**Target/Specificity** This WIPI1 antibody is generated from rabbits immunized with a KLH

conjugated synthetic peptide between 32-59 amino acids from the N-terminal

region of human WIPI1.

**Dilution** WB~~1:1000 E~~Use at an assay dependent concentration.

**Format** Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.

This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation

followed by dialysis against PBS.

**Storage** Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store

at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions** WIPI1 Antibody (N-term) is for research use only and not for use in diagnostic

or therapeutic procedures.

# **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: <u>28561066</u>, PubMed: <u>31271352</u>, PubMed: <u>33499712</u>). 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.

# **Background**

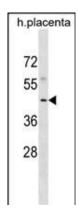
WD40 repeat proteins are key components of many essential biologic functions. They regulate the assembly of multiprotein complexes by presenting a beta-propeller platform for simultaneous and reversible protein-protein interactions. Members of the WIPI subfamily of WD40 repeat proteins, such as WIPI1, have a 7-bladed propeller structure and contain a conserved motif for interaction with phospholipids (Proikas-Cezanne et al., 2004 [PubMed 15602573]).

## References

Chasman, D.I., et al. PLoS Genet. 5 (11), E1000730 (2009): Proikas-Cezanne, T., et al. FEBS Lett. 581(18):3396-3404(2007)

Proikas-Cezanne, T., et al. Oncogene 23(58):9314-9325(2004) Jeffries, T.R., et al. Mol. Biol. Cell 15(6):2652-2663(2004)

# **Images**



WIPI1 Antibody (N-term) (Cat. #AP20115a) western blot analysis in human placenta tissue lysates (35ug/lane). This demonstrates the WIPI1 antibody detected the WIPI1 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.