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#8567

WIPI2 Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 49	Source/Isotype: Rabbit	UniProt ID: #Q9Y4P8	Entrez-Gene Id: 26100
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

WIPI2 Antibody recognizes endogenous levels of total human WIPI2 protein. This antibody detects overexpressed mouse WIPI2 protein and weakly detects endogenous levels of mouse WIPI2.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu379 of human WIPI2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Autophagy is a catabolic process for the autophagosomic-lysosomal degradation of bulk cytoplasmic contents (1,2). It is generally activated by conditions of nutrient deprivation but is also associated with a number of physiological processes including development, differentiation, neurodegeneration, infection, and cancer (3). The molecular machinery of autophagy was largely discovered in yeast and is directed by a number of autophagy-related (Atg) genes.

Vacuolar trafficking and autophagy are controlled by the class III type phosphoinositide 3-kinase (PI3K) Vps34, which generates phosphoinositide-3-phosphate (PtdIns3P) (4,5). Atg18 and Atg21 are two related WD-repeat proteins that bind PtdIns3P via a conserved Phe-Arg-Arg-Gly motif (6,7). It has been shown that Atg18 binds to Atg2 and that this complex is directed to vacuolar membranes by its interaction with PtdIns3P (8). Human orthologs of Atg18 and Atg21 were identified as members of the WD-repeat protein Interacting with Phosphoinositides (WIPI) family (9-11). WIPI1 (also called WIPI49) and WIPI2 have been shown to translocate from several vacuolar compartments to LC3-positive autophagosomes during autophagy; this translocation may be used as an autophagy marker (10).

Background References

1. Reggiori, F. and Klionsky, D.J. (2002) *Eukaryot Cell* 1, 11-21.
2. Codogno, P. and Meijer, A.J. (2005) *Cell Death Differ* 12 Suppl 2, 1509-18.
3. Levine, B. and Yuan, J. (2005) *J Clin Invest* 115, 2679-88.
4. Corvera, S. (2001) *Traffic* 2, 859-66.
5. Yan, Y. and Backer, J.M. (2007) *Biochem Soc Trans* 35, 239-41.
6. Krick, R. et al. (2006) *FEBS Lett* 580, 4632-8.
7. Strømhaug, P.E. et al. (2004) *Mol Biol Cell* 15, 3553-66.
8. Obara, K. et al. (2008) *J Biol Chem* 283, 23972-80.
9. Jeffries, T.R. et al. (2004) *Mol Biol Cell* 15, 2652-63.
10. Proikas-Cezanne, T. et al. (2007) *FEBS Lett* 581, 3396-404.
11. Polson, H.E. et al. (2010) *Autophagy* 6, 506-22.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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