

MTMR3 Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	130-150	Rabbit	#Q13615	8897

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

MTMR3 Antibody recognizes endogenous levels of total MTMR3 protein. This antibody also cross-reacts with a protein of unknown origin at 48 kDa.

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 Pro600 of human MTMR3 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Myotubularin-related proteins are a family of phosphatases with emerging roles in cellular signaling and membrane trafficking (1,2). MTMR3 (Myotubularin-related protein 3), also known as FYVE-DSP1, contains an amino terminal pleckstrin homology (PH) domain and a carboxyl terminal FYVE domain. MTMR3 was first reported as a dual-specific phosphatase, having phosphatase activity toward phosphorylated serine, threonine, and tyrosine residues (3). Subsequent research studies reported that MTMR3 has phosphatase activity toward phosphoinositides, including phosphatidylinositol-3-phosphate (PI3P) and phosphatidylinositol 3,5-bisphosphate (PI(3,5)P₂) (4). Accumulation of PI3P by the class III phosphoinositide 3-kinase Vps34 is a key element in autophagosome formation (5). Inhibition of PI3P by MTMR3 can play an important role in suppressing autophagosome formation (6).

Background References

1. Robinson, F.L. and Dixon, J.E. (2006) *Trends Cell Biol* 16, 403-12.
2. Laporte, J. et al. (2002) *Biochem Biophys Res Commun* 291, 305-12.
3. Zhao, R. et al. (2000) *Biochem Biophys Res Commun* 270, 222-9.
4. Walker, D.M. et al. (2001) *Curr Biol* 11, 1600-5.
5. Simonsen, A. and Tooze, S.A. (2009) *J Cell Biol* 186, 773-82.
6. Taguchi-Atarashi, N. et al. (2010) *Traffic* 11, 468-78.

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

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