

#12443 Store at -20°C

## MTMR3 Antibody



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

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

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	MTMR3 Antibody recognizes endogenous levels of total MTMR3 protein. This antibody also cross-reacts with a protein of unknown origin at 48 kDa.	
<b>Species predicted to react based on 100% sequence homology:</b>	Monkey	
<b>Source / Purification</b>	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.	
<b>Background</b>	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)P <sub>2</sub> ) (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).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Robinson, F.L. and Dixon, J.E. (2006) <i>Trends Cell Biol</i> 16, 403-12.</li> <li>2. Laporte, J. et al. (2002) <i>Biochem Biophys Res Commun</i> 291, 305-12.</li> <li>3. Zhao, R. et al. (2000) <i>Biochem Biophys Res Commun</i> 270, 222-9.</li> <li>4. Walker, D.M. et al. (2001) <i>Curr Biol</i> 11, 1600-5.</li> <li>5. Simonsen, A. and Tooze, S.A. (2009) <i>J Cell Biol</i> 186, 773-82.</li> <li>6. Taguchi-Atarashi, N. et al. (2010) <i>Traffic</i> 11, 468-78.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>WB:</b> Western Blotting
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected
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