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# MTMR14 Antibody

#9057 Store at -20C

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

<b>Applications:</b> W	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 80	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #Q8NCE2	<b>Entrez-Gene Id:</b> 64419
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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

MTMR14 Antibody recognizes endogenous levels of total MTMR14 protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg500 of human MTMR14 protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Myotubularin-related protein 14 (MTMR14), also known as Jumpy, is a myotubularin-related phosphoinositol-3-phosphate (PI3P) phosphatase (1). Mutations in the MTMR14 gene have been associated with centronuclear myopathy (1). MTMR14 deficiency in mice leads to altered calcium homeostasis and muscle disorders (2). MTMR14 has also been shown to play a role in autophagy, a process that is highly regulated by phosphatidylinositides through the type III PI3K, Vps34 (3). MTMR14 was localized to autophagic isolation membranes and early autophagosomes (3). In these studies, MTMR14 inhibited autophagy and mutations of MTMR14 associated with centronuclear myopathy were also defective in autophagy inhibition. In zebrafish, MTMR14 knockdown was shown to increase the number of autophagosomes, suggesting that its activity is associated with an inhibition of autophagy (4).

## Background References

- Tosch, V. et al. (2006) *Hum Mol Genet* 15, 3098-106.
- Shen, J. et al. (2009) *Nat Cell Biol* 11, 769-76.
- Vergne, I. et al. (2009) *EMBO J* 28, 2244-58.
- Gibbs, E.M. et al. (2010) *Autophagy* 6, 819-20.

## 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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