

#14016 Store at -20°C

Miro2 Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H Mk	Endogenous	80	Rabbit	#Q8IXI1	89941

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

Miro2 Antibody recognizes endogenous levels of total Miro2 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly452 of human Miro2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Mitochondrial Rho GTPase 1 (Miro1, RHOT1) and mitochondrial Rho GTPase 2 (Miro2, RHOT2) are atypical Ras GTPase proteins that localize to the outer mitochondrial membrane (1,2). These evolutionarily conserved proteins contain GTP-binding domains and a pair of calcium-binding EF hand domains (1,2). Research studies indicate that Miro1 and Miro2 function in the axonal transport of mitochondria in neurons (2). Both Miro proteins play an essential role in mitochondrial trafficking by attaching mitochondria to essential motor and adaptor proteins (3). Miro GTPase proteins that are anchored to the outer mitochondrial membrane interact with kinesin-binding proteins TRAK1 and TRAK2 to provide a link between mitochondria to microtubules (4). Increased levels of synaptic calcium appears to inhibit mitochondrial trafficking mediated by Miro, suggesting a role for the EF hand as a calcium sensor (5).

Background References

1. Fransson, A. et al. (2003) *J Biol Chem* 278, 6495-502.
2. Anvret, A. et al. (2012) *Open Neurol J* 6, 1-5.
3. Fransson, S. et al. (2006) *Biochem Biophys Res Commun* 344, 500-10.
4. Saotome, M. et al. (2008) *Proc Natl Acad Sci U S A* 105, 20728-33.
5. Macaskill, A.F. et al. (2009) *Neuron* 61, 541-55.

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

WB: Western Blotting

Cross-Reactivity Key

H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster
X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse
GP: Guinea Pig Rab: rabbit All: all species expected

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