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Rho T2 (E-9): sc-518198

BACKGROUND

The Rho subfamily of Ras-related GTPases controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. Rho T2 (Ras homolog gene family, member T2), also known as ARHT2, RASL or MIRO-2 (mitochondrial Rho GTPase 2), is a 618 amino acid single-pass type IV membrane protein that functions as a GTPase during mitochondrial trafficking. Existing as two alternatively spliced isoforms, Rho T2 is ubiquitously expressed with highest levels found in pancreas, heart, kidney and skeletal muscle. Rho T2 is thought to influence anterograde transport of mitochondria and associates with kinesin-binding proteins, such as OIP106 and GRIF-1, to link mitochondria to microtubules. Rho T2 contains two EF-hand domains and two miro domains, and is encoded by a gene that maps to human chromosome 16p13.3.

REFERENCES

1. Daniels, R.J., et al. 2001. Sequence, structure and pathology of the fully annotated terminal 2 Mb of the short arm of human chromosome 16. *Hum. Mol. Genet.* 10: 339-352.
2. Fransson, A., et al. 2003. Atypical Rho GTPases have roles in mitochondrial homeostasis and apoptosis. *J. Biol. Chem.* 278: 6495-6502.
3. Aspenström, P., et al. 2004. Rho GTPases have diverse effects on the organization of the Actin filament system. *Biochem. J.* 377: 327-337.
4. Shan, Y., et al. 2004. Cloning and characterization of the mouse Arht2 gene which encodes a putative atypical GTPase. *Cytogenet. Genome Res.* 106: 91-97.
5. Fransson, S., et al. 2006. The atypical Rho GTPases Miro-1 and Miro-2 have essential roles in mitochondrial trafficking. *Biochem. Biophys. Res. Commun.* 344: 500-510.

CHROMOSOMAL LOCATION

Genetic locus: RHOT2 (human) mapping to 16p13.3.

SOURCE

Rho T2 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 400-419 of Rho T2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rho T2 (E-9) is available conjugated to agarose (sc-518198 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518198 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518198 PE), fluorescein (sc-518198 FITC), Alexa Fluor® 488 (sc-518198 AF488), Alexa Fluor® 546 (sc-518198 AF546), Alexa Fluor® 594 (sc-518198 AF594) or Alexa Fluor® 647 (sc-518198 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518198 AF680) or Alexa Fluor® 790 (sc-518198 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Rho T2 (E-9) is recommended for detection of Rho T2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rho T2 siRNA (h): sc-93029, Rho T2 shRNA Plasmid (h): sc-93029-SH and Rho T2 shRNA (h) Lentiviral Particles: sc-93029-V.

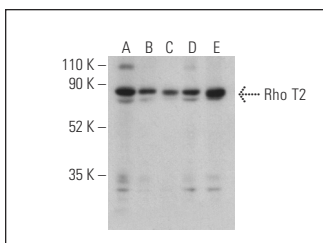
Molecular Weight of Rho T2 isoforms: 68/23 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rho T2 (E-9): sc-518198. Western blot analysis of Rho T2 expression in K-562 (A), A549 (B), Hep G2 (C), HeLa (D) and LNCaP (E) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.