

Rho T2 (H-45): sc-135387

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.
6. Saotome, M., et al. 2008. Bidirectional Ca²⁺-dependent control of mitochondrial dynamics by the Miro GTPase. *Proc. Natl. Acad. Sci. USA* 105: 20728-20733.

CHROMOSOMAL LOCATION

Genetic locus: RHOT2 (human) mapping to 16p13.3; Rhot2 (mouse) mapping to 17 A3.3.

SOURCE

Rho T2 (H-45) is a rabbit polyclonal antibody raised against amino acids 71-115 mapping near the N-terminus of Rho T2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Rho T2 (H-45) is recommended for detection of Rho T2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Rho T2 (H-45) is also recommended for detection of Rho T2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Rho T2 siRNA (h): sc-93029, Rho T2 siRNA (m): sc-152857, Rho T2 shRNA Plasmid (h): sc-93029-SH, Rho T2 shRNA Plasmid (m): sc-152857-SH, Rho T2 shRNA (h) Lentiviral Particles: sc-93029-V and Rho T2 shRNA (m) Lentiviral Particles: sc-152857-V.

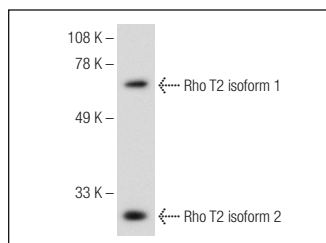
Molecular Weight of Rho T2 isoforms: 68/23 kDa.

Positive Controls: mouse testis extract: sc-2405 or human heart extract: sc-363763.

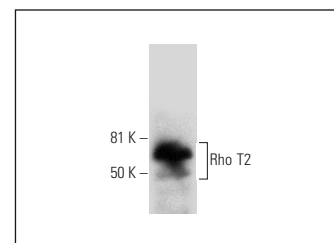
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Rho T2 (H-45): sc-135387. Western blot analysis of Rho T2 expression in mouse testis tissue extract.



Rho T2 (H-45): sc-135387. Western blot analysis of Rho T2 expression in human heart tissue extract.

RESEARCH USE

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

PROTOCOLS

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