SANTA CRUZ BIOTECHNOLOGY, INC.

Rho T1 (A-8): sc-398520

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Rho subfamily of Ras-related GTPases controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. Rho T1 (Ras homolog gene family, member T1), also known as ARHT1 or MIRO-1 (mitochondrial Rho GTPase 1), is an evolutionarily conserved member of the mitochondrial Rho GTPase family of proteins. Localizing to the mitochondrion, Rho T1 is widely expressed with predominant expression in skeletal muscle and heart. Rho T1 is a single-pass type IV membrane protein with two EF-hand domains and two GTPase domains (one at the N-terminus and one at the C-terminus). It is believed to play a role in the regulation of mitochondrial homeostasis and specifically binds to the Kinesin-interacting proteins GRIF-1 and OIP106. Mutations in the gene encoding Rho T1 result in aggregation of the mitochondria. This suggests a potential role for Rho T1 in mitochondrial trafficking.

CHROMOSOMAL LOCATION

Genetic locus: RHOT1 (human) mapping to 17q11.2; Rhot1 (mouse) mapping to 11 B5.

SOURCE

Rho T1 (A-8) is a mouse monoclonal antibody raised against amino acids 474-547 mapping near the C-terminus of Rho T1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rho T1 (A-8) is available conjugated to agarose (sc-398520 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398520 PE), fluorescein (sc-398520 FITC), Alexa Fluor® 488 (sc-398520 AF488), Alexa Fluor® 546 (sc-398520 AF546), Alexa Fluor® 594 (sc-398520 AF594) or Alexa Fluor® 647 (sc-398520 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398520 AF680) or Alexa Fluor® 790 (sc-398520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Rho T1 (A-8) is recommended for detection of Rho T1 of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 T1 siRNA (h): sc-93809, Rho T1 siRNA (m): sc-152856, Rho T1 shRNA Plasmid (h): sc-93809-SH, Rho T1 shRNA Plasmid (m): sc-152856-SH, Rho T1 shRNA (h) Lentiviral Particles: sc-93809-V and Rho T1 shRNA (m) Lentiviral Particles: sc-152856-V.

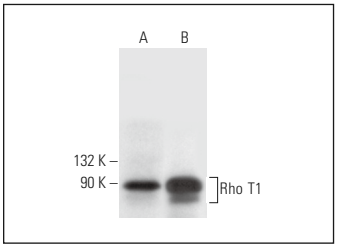
Molecular Weight of Rho T1: 71 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human heart extract: sc-363763.

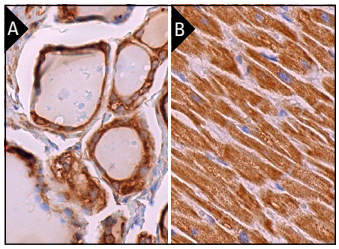
STORAGE

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

DATA



Rho T1 (A-8): sc-398520. Western blot analysis of Rho T1 expression in Hep G2 whole cell lysate (**A**) and human heart tissue extract (**B**).



Rho T1 (A-8): sc-398520. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Caino, M.C., et al. 2016. A neuronal network of mitochondrial dynamics regulates metastasis. Nat. Commun. 7: 13730.
2. Puertas-Frías, G., et al. 2019. Mitochondrial movement in Aralar/Slc25a12/ AGC1 deficient cortical neurons. Neurochem. Int. 131: 104541.
3. Quintanilla, R.A., et al. 2020. Truncated Tau induces mitochondrial transport failure through the impairment of TRAK2 protein and bioenergetics decline in neuronal cells. Front. Cell. Neurosci. 14: 175.
4. Kam, M.K., et al. 2020. Amyloid-β oligomers induce Parkin-mediated mitophagy by reducing Miro1. Biochem. J. 477: 4581-4597.
5. Li, B., et al. 2021. Miro1 regulates neuronal mitochondrial transport and distribution to alleviate neuronal damage in secondary brain injury after intracerebral hemorrhage in rats. Cell. Mol. Neurobiol. 41: 795-812.
6. Rea, J., et al. 2021. Identification and functional characterization of novel MYC-regulated long noncoding RNAs in group 3 medulloblastoma. Cancers 13: 3853.
7. Sun, J., et al. 2023. Cadmium promotes nonalcoholic fatty liver disease by inhibiting intercellular mitochondrial transfer. Cell. Mol. Biol. Lett. 28: 87.
8. Sadeghsoltani, F., et al. 2024. Autophagy modulation effect on homotypic transfer of intracellular components via tunneling nanotubes in mesenchymal stem cells. Stem Cell Res. Ther. 15: 189.

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.