

RHOBTB1 (S-12): sc-132434

BACKGROUND

The Rho subfamily of Ras-related GTPases controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. RHOBTB1 (Rho-related BTB domain-containing protein 1) and RHOBTB3 (Rho-related BTB domain-containing protein 3) each contain two BTB (POZ) domains and belong to the RhoBTB subfamily of Rho GTPases. Members of the RhoBTB subfamily are evolutionarily conserved and are characterized by a proline-rich region, a GTPase domain and two tandem BTB repeats. While both RHOBTB1 and RHOBTB3 are expressed ubiquitously, RHOBTB1 is found at high levels in placenta, stomach, testis, kidney and skeletal muscle, whereas RHOBTB3 is found at high levels in neural and cardiac tissues. RHOBTB1 is thought to play a role in GTPase-mediated signaling and may participate in organization of the actin filament system. Additionally, RHOBTB1 expression is decreased in head and neck carcinomas, suggesting a possible role for RHOBTB1 as a tumor suppressor.

REFERENCES

- Rivero, F., Dislich, H., Glöckner, G. and Noegel, A.A. 2001. The *Dictyostelium discoideum* family of Rho-related proteins. *Nucleic Acids Res.* 29: 1068-1079.
- Ramos, S., Khademi, F., Somesh, B.P. and Rivero, F. 2002. Genomic organization and expression profile of the small GTPases of the RhoBTB family in human and mouse. *Gene* 298: 147-157.
- Aspenström, P., Fransson, A. and Saras, J. 2004. Rho GTPases have diverse effects on the organization of the actin filament system. *Biochem. J.* 377: 327-337.
- Vlahou, G. and Rivero, F. 2006. Rho GTPase signaling in *Dictyostelium discoideum*: insights from the genome. *Eur. J. Cell Biol.* 85: 947-959.
- Beder, L.B., Gunduz, M., Ouchida, M., Gunduz, E., Sakai, A., Fukushima, K., Nagatsuka, H., Ito, S., Honjo, N., Nishizaki, K. and Shimizu, K. 2006. Identification of a candidate tumor suppressor gene RHOBTB1 located at a novel allelic loss region 10q21 in head and neck cancer. *J. Cancer Res. Clin. Oncol.* 132: 19-27.
- Aspenström, P., Ruusala, A. and Pacholsky, D. 2007. Taking Rho GTPases to the next level: the cellular functions of atypical Rho GTPases. *Exp. Cell Res.* 313: 3673-3679.
- Boureux, A., Vignal, E., Faure, S. and Fort, P. 2007. Evolution of the Rho family of Ras-like GTPases in eukaryotes. *Mol. Biol. Evol.* 24: 203-216.
- Berthold, J., Schenkova, K. and Rivero, F. 2008. Rho GTPases of the RhoBTB subfamily and tumorigenesis. *Acta Pharmacol. Sin.* 29: 285-295.

CHROMOSOMAL LOCATION

Genetic locus: RHOBTB1 (human) mapping to 10q21.2; Rhobtb1 (mouse) mapping to 10 B5.3.

SOURCE

RHOBTB1 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RHOBTB1 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.

Blocking peptide available for competition studies, sc-132434 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RHOBTB1 (S-12) is recommended for detection of RHOBTB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with RHOBTB3.

RHOBTB1 (S-12) is also recommended for detection of RHOBTB1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RHOBTB1 siRNA (h): sc-90810, RHOBTB1 siRNA (m): sc-152859, RHOBTB1 shRNA Plasmid (h): sc-90810-SH, RHOBTB1 shRNA Plasmid (m): sc-152859-SH, RHOBTB1 shRNA (h) Lentiviral Particles: sc-90810-V and RHOBTB1 shRNA (m) Lentiviral Particles: sc-152859-V.

Molecular Weight of RHOBTB1: 79 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.