

Rad GTPase (B-10): sc-373988

BACKGROUND

The Ras-encoded family of proteins bind GDP and GTP with high affinity. They possess a low level of intrinsic GTPase activity that increases more than 100-fold when interacting with cytosolic GTPase activating protein (GAP). Ras family members include H-Ras, K-Ras, N-Ras, M-Ras, R-Ras, E-Ras, Rheb, TC 21, RASL11B and Rad (Ras associated with diabetes) GTPase. Rad GTPase is a GTP-binding protein that is similar to Ras but has unique features. Unlike other small GTPases, Rad GTPase lacks typical prenylation motifs at its C terminus. The Rad GTPase enzyme binds calmodulin, inhibits vascular lesion formation, has low intrinsic GTPase activity and cannot be stimulated by any known GAP molecules. Rad GTPase is expressed in skeletal muscle, cardiac muscle and lung tissues and is overexpressed in the skeletal muscle tissue of individuals with type II diabetes. It is also expressed to a lesser extent in placenta, adipose tissue and kidney.

REFERENCES

- Zhu, J., et al. 1995. Characterization of Rad, a new member of Ras/GTPase superfamily, and its regulation by a unique GTPase-activating protein (GAP)-like activity. *J. Biol. Chem.* 270: 4805-4812.
- Zhu, J., et al. 1999. Interaction of the Ras-related protein associated with diabetes Rad and the putative tumor metastasis suppressor NM23 provides a novel mechanism of GTPase regulation. *Proc. Natl. Acad. Sci. USA* 96: 14911-14918.
- Fu, M., et al. 2005. Rad GTPase attenuates vascular lesion formation by inhibition of vascular smooth muscle cell migration. *Circulation* 111: 1071-1077.
- Langston, L.D. and Symington, L.S. 2005. Opposing roles for DNA structure-specific proteins Rad1, MSH2, MSH3, and Sgs1 in yeast gene targeting. *EMBO J.* 24: 2214-2223.

CHROMOSOMAL LOCATION

Genetic locus: RRAD (human) mapping to 16q22.1.

SOURCE

Rad GTPase (B-10) is a mouse monoclonal antibody raised against amino acids 1-143 mapping at the N-terminus of Rad GTPase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rad GTPase (B-10) is available conjugated to agarose (sc-373988 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373988 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373988 PE), fluorescein (sc-373988 FITC), Alexa Fluor® 488 (sc-373988 AF488), Alexa Fluor® 546 (sc-373988 AF546), Alexa Fluor® 594 (sc-373988 AF594) or Alexa Fluor® 647 (sc-373988 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373988 AF680) or Alexa Fluor® 790 (sc-373988 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Rad GTPase (B-10) is recommended for detection of Rad GTPase 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 Rad GTPase siRNA (h): sc-61433, Rad GTPase shRNA Plasmid (h): sc-61433-SH, Rad GTPase shRNA (h) Lentiviral Particles: sc-61433-V.

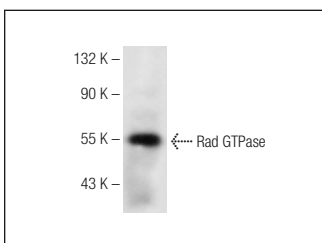
Molecular Weight of Rad GTPase: 46 kDa.

Positive Controls: NCI-H1688 whole cell lysate, A-673 cell lysate: sc-2414 or SJRH30 cell lysate: sc-2287.

RECOMMENDED SUPPORT 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



Rad GTPase (B-10): sc-373988. Western blot analysis of Rad GTPase expression in NCI-H1688 whole cell lysate.

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.