

Rad GTPase (H-143): sc-134823

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., Reynet, C., Caldwell, J.S. and Kahn, C.R. 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., Tseng, Y.H., Kantor, J.D., Rhodes, C.J., Zetter, B.R., Moyers, J.S. and Kahn, C.R. 2000. 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., Zhang, J., Tseng, Y.H., Cui, T., Zhu, X., Xiao, Y., Mou, Y., De Leon, H., Chang, M.M., Hamamori, Y., Kahn, C.R. and Chen, Y.E. 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; Rrad (mouse) mapping to 8 D3.

SOURCE

Rad GTPase (H-143) is a rabbit polyclonal 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 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

Rad GTPase (H-143) is recommended for detection of Rad GTPase 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).

Suitable for use as control antibody for Rad GTPase siRNA (h): sc-61433, Rad GTPase siRNA (m): sc-61434, Rad GTPase shRNA Plasmid (h): sc-61433-SH, Rad GTPase shRNA Plasmid (m): sc-61434-SH, Rad GTPase shRNA (h) Lentiviral Particles: sc-61433-V and Rad GTPase shRNA (m) Lentiviral Particles: sc-61434-V.

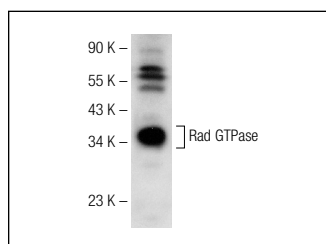
Molecular Weight of Rad GTPase: 46 kDa.

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

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



Rad GTPase (H-143): sc-134823. Western blot analysis of Rad GTPase expression in NCI-H1688 whole cell lysate.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **Rad GTPase (B-10): sc-373988**, our highly recommended monoclonal alternative to Rad GTPase (H-143).