

Rap 2B (EE-2): sc-81915

BACKGROUND

Ras oncogenes encode GTP-binding proteins that are capable of transforming immortalized cells in culture. Two Ras-related human genes, designated RAP1A and RAP1B, encode 95% homologous proteins that share a similar C-terminal Cys-Ali-Ali-Xaa sequence with Ras proteins and are ubiquitously expressed in mammalian tissues. The putative "effector" domain of Ras proteins, whose integrity is required for cell transformation as well as interaction with the putative effector protein GAP, is conserved in both Rap 1 proteins. It has been postulated that p21Rap1 acts to interfere with Ras effector function by binding to Ras GAP. In fact it is known that p21Rap1 binds to Ras GAP *in vitro* in a GTP dependent manner without affecting p21Rap1 GTPase activity. The Rap 2 protein shares 60% identity with the Rap 1A protein and exhibits a carboxy-terminal CAAX motif and two upstream cysteines similar to those of the H-Ras, K-Ras and N-Ras proteins. In contrast with Rap 1, overexpression of Rap 2 does not interfere with the Ras signaling pathway.

REFERENCES

- Pizon, V., et al. 1988. Human cDNAs Rap 1 and Rap 2 homologous to the *Drosophila* gene Dras3 encode proteins closely related to Ras in the "effector" region. *Oncogene* 3: 201-204.
- Pizon, V., et al. 1988. Nucleotide sequence of a human cDNA encoding a Ras-related protein (Rap 1B). *Nucleic Acids Res.* 16: 7719.
- Culine, S., et al. 1989. Expression of the Ras-related Rap genes in human tumors. *Int. J. Cancer* 44: 990-994.
- Kitayama, H., et al. 1989. A Ras-related gene with transformation suppressor activity. *Cell* 56: 77-84.
- Kim, S., et al. 1990. Tissue and sub-cellular distributions of the smg-21/Rap 1/Krev-1 proteins which are partly distinct from those of c-Ras p21s. *Mol. Cell. Biol.* 10: 2645-2652.
- Frech, M., et al. 1990. Inhibition of GTPase activating protein stimulation of Ras-p21 GTPase by the Krev-1 gene product. *Science* 249: 169-171.
- Beranger, F., et al. 1991. Posttranslational processing and subcellular localization of the Ras-related Rap2 protein. *Oncogene* 6: 1835-1842.

CHROMOSOMAL LOCATION

Genetic locus: RAP2B (human) mapping to 13q35.2.

SOURCE

Rap 2B (EE-2) is a mouse monoclonal antibody raised against recombinant Rap 2B of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} 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

Rap 2B (EE-2) is recommended for detection of Rap 2B of 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), 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 Rap 2B siRNA (h): sc-43515, Rap 2B shRNA Plasmid (h): sc-43515-SH and Rap 2B shRNA (h) Lentiviral Particles: sc-43515-V

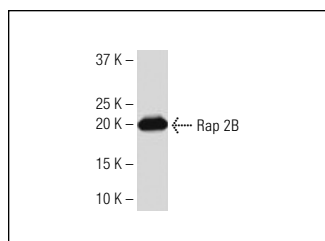
Molecular Weight of Rap 2B: 21 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, SW480 cell lysate: sc-2219 or A-431 whole cell lysate: sc-2201.

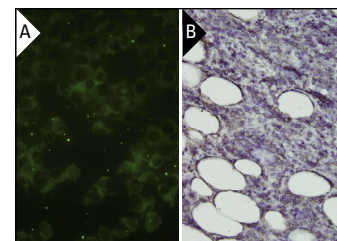
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



Rap 2B (EE-2): sc-81915. Western blot analysis of Rap 2B expression in A-431 whole cell lysate.



Rap 2B (EE-2): sc-81915. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human malignant lymphoma, diffuse large B-cell tissue showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Zona, L., et al. 2013. HRas signal transduction promotes hepatitis C virus cell entry by triggering assembly of the host tetraspanin receptor complex. *Cell Host Microbe* 13: 302-313.

RESEARCH USE

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