

Rap 1A (m): 293T Lysate: sc-122963

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 (namely Rap 1A and Rap 1B) 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. Rap 1A is thought to interfere with Ras effector function by binding to Ras GAP in a GTP-dependent manner without affecting Rap 1A GTPase activity. Rap 2, another Ras-related protein, shares 60% identity with Rap 1A and exhibits a carboxy-terminal CAAX motif and 2 upstream cysteines similar to those of the H-Ras, K-Ras and N-Ras proteins. In contrast with Rap 1A and Rap 1B, overexpression of Rap 2 does not interfere with the Ras signaling pathway.

REFERENCES

1. 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.
2. Pizon, V., et al. 1988. Nucleotide sequence of a human cDNA encoding a Ras-related protein (Rap 1B). *Nucleic Acids Res.* 16: 7719.
3. Culine, S., et al. 1989. Expression of the Ras-related Rap genes in human tumors. *Int. J. Cancer* 44: 990-994.
4. Kim, S., et al. 1990. Tissue and subcellular distributions of the SMG21/ Rap 1/Krev-1 proteins which are partly distinct from those of c-Ras p21s. *Mol. Cell. Biol.* 10: 2645-2652.
5. 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.
6. Hata, Y., et al. 1990. Inhibition of the Ras p21 GTPase-activating protein-stimulated GTPase activity of c-Ha-Ras p21 by SMGP21 having the same putative effector domain as Ras p21s. *J. Biol. Chem.* 265: 7104-7107.
7. Rubinfeld, B., et al. 1991. Molecular cloning of a GTPase activating protein specific for the Krev-1 protein p21^{Rap 1}. *Cell* 65: 1033-1042.
8. Béranger, F., et al. 1991. Association of the Ras-antagonistic Rap 1/Krev-1 proteins with Golgi complex. *Proc. Natl. Acad. Sci. USA* 88: 1606-1610.

CHROMOSOMAL LOCATION

Genetic locus: Rap1a (mouse) mapping to 3 F2.2.

PRODUCT

Rap 1A (m): 293T Lysate represents a lysate of mouse Rap 1A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Rap 1A (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Rap 1A antibodies. Recommended use: 10-20 µl per lane.

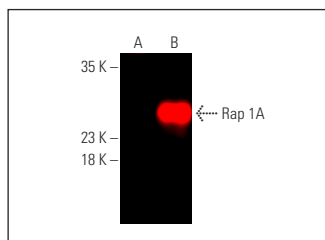
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Rap 1 (E-6): sc-398755 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Rap 1A expression in Rap 1A transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

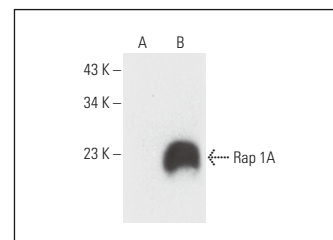
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Rap 1 (E-6): sc-398755. Near-infrared western blot analysis of Rap 1A expression in non-transfected: sc-117752 (A) and mouse Rap 1A transfected: sc-122963 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



Rap 1 (E-6): sc-398755. Western blot analysis of Rap 1A expression in non-transfected: sc-117752 (A) and mouse Rap 1A transfected: sc-122963 (B) 293T whole cell lysates.

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.