



Rap 1B (h): 293 Lysate: sc-110523

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-Ala-Ala-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 Rap1 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 2 upstream cysteines similar to those of the H-Ras, K-Ras and N-Ras proteins. In contrast with Rap1, over-expression of Rap 2 does not interfere with the Ras signaling pathway.

REFERENCES

1. Pizon, V., Chardin, P., Leroisey, I., Olofsson, B. and Tavitian, A. 1988. Human cDNAs RAP1 and RAP2 homologous to the *Drosophila* gene Dras3 encode proteins closely related to Ras in the "effector" region. *Oncogene* 3: 201-204.
2. Pizon, V., Leroisey, I., Chardin, P. and Tavitian, A. 1988. Nucleotide sequence of a human cDNA encoding a Ras-related protein (Rap 1B). *Nucleic Acids Res.* 16: 7719.
3. Culine, S., Olofsson, B., Gosselin, S., Honore, N. and Tavitian, A. 1989. Expression of the Ras-related Rap genes in human tumors. *Int. J. Cancer* 44: 990-994.
4. Kim, S., Mozoguchi, A., Kikuchi, A. and Takai, Y. 1990. Tissue and sub-cellular distributions of the SMG-21/Rap1/Krev-1 proteins which are partly distinct from those of C-Ras p21s. *Mol. Cell. Biol.* 10: 2645-2652.
5. Frech, M., John, J., Pizon, V., Chardin, P., Tavitian, A., Clark, R., McCormick, F. and Wittinghofer, A. 1990. Inhibition of GTPase activating protein stimulation of Ras p21 GTPase by the Krev-1 gene product. *Science* 249: 169-171.
6. Hata, Y., Kikuchi, A., Sasaki, T., Schaber, M.D., Gibbs, J.B. and Takai, Y. 1990. Inhibition of the Ras p21 GTPase-activating protein-stimulated GTPase activity of C-Ha-Ras p21 by SMG p21 having the same putative effector domain as Ras p21s. *J. Biol. Chem.* 265: 7104-7107.
7. Rubinfeld, B., Munemitsu, S., Clark, R., Conroy, L., Watt, K., Crosier, W.J., McCormick, F. and Polakis, P. 1991. Molecular cloning of a GTPase activating protein specific for the Krev-1 protein p21Rap1. *Cell* 65: 1033-1042.
8. Béranger, F., Goud, B., Tavitian, A. and de Gunzburg, J. 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: RAP1B (human) mapping to 12q15.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

Rap 1B (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive Rap 1B antibodies. Recommended use: 10-20 µl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.