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# Rap1GAP (h2): 293T Lysate: sc-177841

## BACKGROUND

Rap1 GTPase activating protein (Rap1GAP) specifically stimulates GTP hydrolytic activity of the monomeric G protein Rap1. Physical interaction between  $G_{\alpha\zeta}$ , a member of the  $G_i$  family of trimeric G proteins, and Rap1GAP blocks the ability of regulators of G protein signaling to stimulate GTP hydrolysis of the  $\alpha$  subunit, and also attenuates the ability of activated  $G_{\alpha\zeta}$  to inhibit adenylyl cyclase. Rap1GAP is expressed in brain, kidney and pancreas and may act as a signal integrator to somehow coordinate and/or integrate  $G_{\alpha\zeta}$  signaling and Rap1 signaling in cells. A novel isoform of Rap1GAP, Rap1GAPII, binds specifically to  $G_{\alpha\zeta}$ . Stimulation of the  $G_i$ -coupled M2 muscarinic receptor translocates Rap1GAPII from the cytosol to the membrane and decreases the amount of GTP-bound Rap1, resulting in the activation of ERK/MAPK.

## REFERENCES

1. Janoueix-Lerosey, I., Fontenay, M., Tobelem, G., Tavitian, A., Polakis, P. and de Gunzburg, J. 1994. Phosphorylation of Rap1GAP during the cell cycle. *Biochem. Biophys. Res. Commun.* 202: 967-975.
2. Kurachi, H., Wada, Y., Tsukamoto, N., Maeda, M., Kubota, H., Hattori, M., Iwai, K. and Minato, N. 1997. Human SPA-1 gene product selectively expressed in lymphoid tissues is a specific GTPase-activating protein for Rap1 and Rap2. Segregate expression profiles from a Rap1GAP gene product. *J. Biol. Chem.* 272: 28081-28088.
3. Wada, Y., Kubota, H., Maeda, M., Taniwaki, M., Hattori, M., Imamura, S., Iwai, K. and Minato, N. 1997. Mitogen-inducible Sipa1 is mapped to the conserved syntenic groups of chromosome 19 in mouse and chromosome 11q13.3 centromeric to Bcl-1 in human. *Genomics* 39: 66-73.
4. Jordan, J.D., Carey, K.D., Stork, P.J. and Iyengar, R. 1999. Modulation of Rap activity by direct interaction of  $G_{\alpha_o}$  with Rap1 GTPase-activating protein. *J. Biol. Chem.* 274: 21507-21510.
5. Meng, J., Glick, J.L., Polakis, P. and Casey, P.J. 1999. Functional interaction between  $G_{\alpha\zeta}$  and Rap1GAP suggests a novel form of cellular cross-talk. *J. Biol. Chem.* 274: 36663-36669.
6. Mochizuki, N., Ohba, Y., Kiyokawa, E., Kurata, T., Murakami, T., Ozaki, T., Kitabatake, A., Nagashima, K. and Matsuda, M. 1999. Activation of the ERK/MAPK pathway by an isoform of Rap1GAP associated with  $G_{\alpha}$ . *Nature* 400: 891-894.

## CHROMOSOMAL LOCATION

Genetic locus: RAP1GAP (human) mapping to 1p36.12.

## PRODUCT

Rap1GAP (h2): 293T Lysate represents a lysate of human Rap1GAP transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l 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

Rap1GAP (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Rap1GAP antibodies. Recommended use: 10-20  $\mu$ l per lane.

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

## RESEARCH USE

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

## PROTOCOLS

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