

# Rap1GAP (T-18): sc-10330

## BACKGROUND

Rap1 GTPase activating protein (rap1GAP) specifically stimulates GTP hydrolytic activity of the monomeric G protein Rap1. Physical interaction between  $G\alpha_2$ , 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 a subunit, and also attenuates the ability of activated  $G\alpha_2$  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  $G_2$  signaling and Rap1 signaling in cells. A novel isoform of Rap1 GTPase-activating protein, Rap1GAPII, binds specifically to  $G\alpha_2$ . 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., et al. 1994. Phosphorylation of Rap1GAP during the cell cycle. *Biochem. Biophys. Res. Commun.* 202: 967-975.
2. Wada, Y., et al. 1997. Mitogen-inducible SIPA1 is mapped to the conserved syntenic groups of chromosome 19 in mouse and chromosome 11q13.3 centromeric to BCL1 in human. *Genomics* 39: 66-73.

## CHROMOSOMAL LOCATION

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

## SOURCE

Rap1GAP (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Rap1GAP of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10330 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Rap1GAP (T-18) is recommended for detection of Rap1GAP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Rap1GAP (T-18) is also recommended for detection of Rap1GAP in additional species, including canine and bovine.

Suitable for use as control antibody for Rap1GAP siRNA (h): sc-36388, Rap1GAP shRNA Plasmid (h): sc-36388-SH and Rap1GAP shRNA (h) Lentiviral Particles: sc-36388-V.

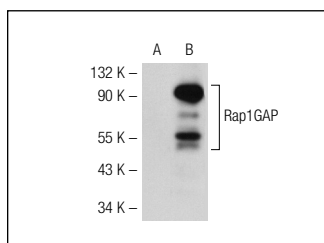
Molecular Weight of Rap1GAP: 89 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or SH-SY5Y cell lysate: sc-3812 or Rap1GAP (h): 293T Lysate: sc-116162.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Rap1GAP (T-18): sc-10330. Western blot analysis of Rap1GAP expression in non-transfected: sc-117752 (A) and human Rap1GAP transfected: sc-116162 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Jiao, L., et al. 2011. Rap1GAP interacts with RET and suppresses GDNF-induced neurite outgrowth. *Cell Res.* 21: 327-337.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Rap1GAP (D-9): sc-166586** or **Rap1GAP (G-1): sc-514543**, our highly recommended monoclonal alternatives to Rap1GAP (T-18).