

# Rap1GAP (H-93): sc-28189

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: RAP1GA1 (human) mapping to 1p36.12; Rap1ga1 (mouse) mapping to 4 D3.

## SOURCE

Rap1GAP (H-93) is a rabbit polyclonal antibody raised against amino acids 571-663 mapping at the C-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.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

Rap1GAP (H-93) is recommended for detection of Rap1GAP of mouse, rat and 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).

Suitable for use as control antibody for Rap1GAP siRNA (h): sc-36388, Rap1GAP siRNA (m): sc-155959, Rap1GAP shRNA Plasmid (h): sc-36388-SH, Rap1GAP shRNA Plasmid (m): sc-155959-SH, Rap1GAP shRNA (h) Lentiviral Particles: sc-36388-V and Rap1GAP shRNA (m) Lentiviral Particles: sc-155959-V.

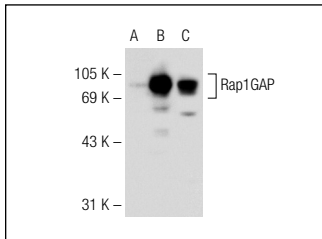
Molecular Weight of Rap1GAP: 89 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, SH-SY5Y cell lysate: sc-3812 or Rap1GAP (h): 293T Lysate: sc-177841.

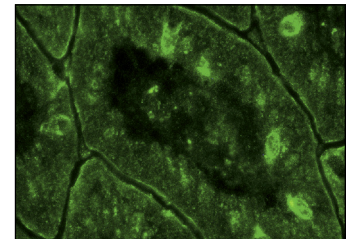
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Rap1GAP (H-93): sc-28189. Western blot analysis of Rap1GAP expression in non-transfected 293T: sc-117752 (A), human Rap1GAP transfected 293T: sc-177841 (B) and SK-N-SH (C) whole cell lysates.



Rap1GAP (H-93): sc-28189. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

- Malchinkhuu, E., et al. 2009. Role of Rap1B and tumor suppressor PTEN in the negative regulation of lysophosphatidic acid—induced migration by isoproterenol in glioma cells. *Mol. Biol. Cell* 20: 5156-5165.
- Yawalkar, N., et al. 2009. Increased expression of IL-12p70 and IL-23 by multiple dendritic cell and macrophage subsets in plaque psoriasis. *J. Dermatol. Sci.* 54: 99-105.
- Zuo, H., et al. 2010. Downregulation of Rap1GAP through epigenetic silencing and loss of heterozygosity promotes invasion and progression of thyroid tumors. *Cancer Res.* 70: 1389-1397.
- Tsygankova, O.M., et al. 2010. Downregulation of Rap1GAP in human tumor cells alters cell/matrix and cell/cell adhesion. *Mol. Cell. Biol.* 30: 3262-3274.

## RESEARCH USE

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


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Try **Rap1GAP (D-9): sc-166586** or **Rap1GAP (G-1): sc-514543**, our highly recommended monoclonal alternatives to Rap1GAP (H-93).