

# RAP1GDS1 (F-1): sc-390003

## BACKGROUND

RAP1GDS1 (RAP1, GTP-GDP dissociation stimulator 1), also known as SmgGDS or GDS1, is a 607 amino acid protein that contains five ARM repeats and functions to stimulate the GDP/GTP exchange reaction of select small GTP-binding proteins. Additionally, RAP1GDS1 is thought to promote aberrant cell growth, playing a role in the development and metastasis of non-small cell lung carcinoma. Multiple isoforms of RAP1GDS1 exist due to alternative splicing events. The gene encoding RAP1GDS1 maps to human chromosome 4q23, which houses nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

## CHROMOSOMAL LOCATION

Genetic locus: RAP1GDS1 (human) mapping to 4q23; Rap1gds1 (mouse) mapping to 3 H1.

## SOURCE

RAP1GDS1 (F-1) is a mouse monoclonal antibody raised against amino acids 308-607 mapping at the C-terminus of RAP1GDS1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RAP1GDS1 (F-1) is available conjugated to agarose (sc-390003 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390003 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390003 PE), fluorescein (sc-390003 FITC), Alexa Fluor<sup>®</sup> 488 (sc-390003 AF488), Alexa Fluor<sup>®</sup> 546 (sc-390003 AF546), Alexa Fluor<sup>®</sup> 594 (sc-390003 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-390003 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-390003 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-390003 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

RAP1GDS1 (F-1) is recommended for detection of RAP1GDS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 RAP1GDS1 siRNA (h): sc-88897, RAP1GDS1 siRNA (m): sc-106481, RAP1GDS1 shRNA Plasmid (h): sc-88897-SH, RAP1GDS1 shRNA Plasmid (m): sc-106481-SH, RAP1GDS1 shRNA (h) Lentiviral Particles: sc-88897-V and RAP1GDS1 shRNA (m) Lentiviral Particles: sc-106481-V.

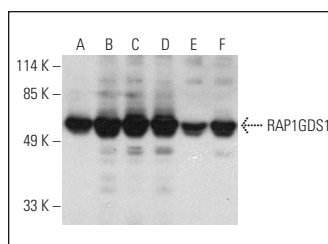
Molecular Weight of RAP1GDS1 isoforms: 61/57 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, CCRF-CEM cell lysate: sc-2225 or MOLT-4 cell lysate: sc-2233.

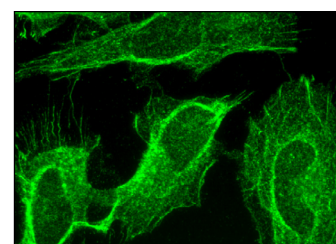
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



RAP1GDS1 (F-1) HRP: sc-390003 HRP. Direct western blot analysis of RAP1GDS1 expression in SK-BR-3 (A), Jurkat (B), CCRF-CEM (C), MOLT-4 (D), HEK293 (E) and MDA-MB-231 (F) whole cell lysates.



RAP1GDS1 (F-1): sc-390003. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Gonyo, P., et al. 2017. SmgGDS is a transient nucleolar protein that protects cells from nucleolar stress and promotes the cell cycle by regulating DREAM complex gene expression. *Oncogene* 36: 6873-6883.
- Nissim, S., et al. 2019. Mutations in RABL3 alter KRAS prenylation and are associated with hereditary pancreatic cancer. *Nat. Genet.* 51: 1308-1314.
- Sato, T., et al. 2021. Silencing of SmgGDS, a novel mTORC1 inducer that binds to RHEBs, inhibits malignant mesothelioma cell proliferation. *Mol. Cancer Res.* 19: 921-931.

## 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) for detailed protocols and support products.