

# RasGRP1 (A-7): sc-365358

## BACKGROUND

The superfamily of GTP-binding proteins, of which Ras proteins are prototypes, has been implicated in a broad range of biological activities. Studies have identified a family of guanine nucleotide-releasing factors (GRFs) that activate Ras in mammalian cells and an "adapter" protein (Sem 5/GRB2) that appears to mediate the interaction of GRFs with activated receptor molecules. Subsequent to activation, Ras appears to interact with Raf, thereby activating the MAP kinase phosphorylation pathway. RasGRP is a guanyl nucleotide-releasing protein for Ras that contains two EF hand domains, which bind to calcium, and a diacylglycerol (DAG)-binding domain. RasGRP is expressed in the nervous system and lymphoid tissues and may link changes in DAG and calcium concentrations to Ras activation.

## CHROMOSOMAL LOCATION

Genetic locus: RASGRP1 (human) mapping to 15q14.

## SOURCE

RasGRP1 (A-7) is a mouse monoclonal antibody raised against amino acids 678-797 mapping at the C-terminus of RasGRP1 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.

RasGRP1 (A-7) is available conjugated to agarose (sc-365358 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365358 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365358 PE), fluorescein (sc-365358 FITC), Alexa Fluor® 488 (sc-365358 AF488), Alexa Fluor® 546 (sc-365358 AF546), Alexa Fluor® 594 (sc-365358 AF594) or Alexa Fluor® 647 (sc-365358 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365358 AF680) or Alexa Fluor® 790 (sc-365358 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

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

## APPLICATIONS

RasGRP1 (A-7) is recommended for detection of RasGRP1 of 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 RasGRP siRNA (h): sc-36397, RasGRP shRNA Plasmid (h): sc-36397-SH and RasGRP shRNA (h) Lentiviral Particles: sc-36397-V.

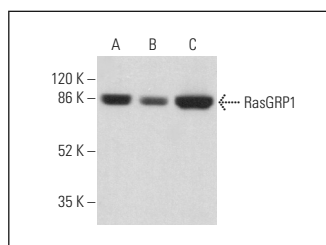
Molecular Weight of RasGRP1 isoforms 1/2/3/4/5: 90/87/68/55/63 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Raji whole cell lysate: sc-364236 or RasGRP1 (h): 293T Lysate: sc-369489.

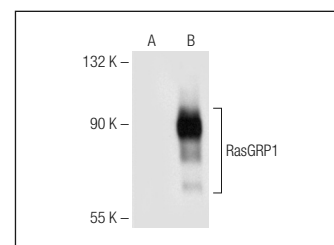
## RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



RasGRP1 (A-7): sc-365358. Western blot analysis of RasGRP1 expression in Jurkat (A), Raji (B) and MOLT-4 (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



RasGRP1 (A-7): sc-365358. Western blot analysis of RasGRP1 expression in non-transfected: sc-117752 (A) and human RasGRP1 transfected: sc-369489 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Poltorak, M., et al. 2014. Sos1 regulates sustained TCR-mediated Erk activation. *Eur. J. Immunol.* 44: 1535-1540.
- Vanshylla, K., et al. 2018. GRB2 and GRAP connect the B cell antigen receptor to Erk MAP kinase activation in human B cells. *Sci. Rep.* 8: 4244.
- Sutton, L.P., et al. 2019. NF1-cAMP signaling dissociates cell type-specific contributions of striatal medium spiny neurons to reward valuation and motor control. *PLoS Biol.* 17: e3000477.
- Li, X., et al. 2020. Slit2 protects hearts against ischemia-reperfusion injury by inhibiting inflammatory responses and maintaining myofilament contractile properties. *Front. Physiol.* 11: 228.
- Tian, X.P., et al. 2020. BRD2 induces drug resistance through activation of the RasGRP1/Ras/ERK signaling pathway in adult T-cell lymphoblastic lymphoma. *Cancer Commun.* 40: 245-259.
- Zhou, H., et al. 2022. The combination of danhong injection plus tissue plasminogen activator ameliorates mouse tail thrombosis-induced by κ-carrageenan. *Phytomedicine* 104: 154320.

## 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.

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