

RASAL1 (B-2): sc-398025

BACKGROUND

RASAL1 (Ras protein activator like 1) is an 804 amino acid protein that exists as two alternatively spliced isoforms and contains one Rag-GAP domain, one PH domain, one Btk-type zinc finger and two C2 domains. Expressed at high levels in thyroid and adrenal medulla and present at lower levels in trachea, brain and spinal cord, RASAL1 is thought to function as an inhibitory regulator of the Ras-cyclic AMP pathway, possibly enhancing Ras GTPase activity and playing a role in the regulation of cellular proliferation and differentiation. Lowered expression of RASAL1 is associated with the progression of several types of human cancers, suggesting a role for RASAL1 in tumor suppression and apoptotic control.

REFERENCES

- Allen, M., et al. 1998. Restricted tissue expression pattern of a novel human Ras GAP-related gene and its murine ortholog. *Gene* 218: 17-25.
- Schmitt, J.M. and Stork, P.J. 2002. G_{α} and $G_{\beta-\gamma}$ require distinct Src-dependent pathways to activate Rap 1 and Ras. *J. Biol. Chem.* 277: 43024-43032.
- Kolfschoten, I.G., et al. 2005. A genetic screen identifies Pitx1 as a suppressor of Ras activity and tumorigenicity. *Cell* 121: 849-858.
- Liu, Q., et al. 2005. CAPRI and RASAL impose different modes of information processing on Ras due to contrasting temporal filtering of Ca^{2+} . *J. Cell Biol.* 170: 183-190.
- Jin, H., et al. 2007. Epigenetic silencing of a Ca^{2+} -regulated Ras GTPase-activating protein RASAL defines a new mechanism of Ras activation in human cancers. *Proc. Natl. Acad. Sci. USA* 104: 12353-12358.

CHROMOSOMAL LOCATION

Genetic locus: RASAL1 (human) mapping to 12q24.13; Rasal1 (mouse) mapping to 5 F.

SOURCE

RASAL1 (B-2) is a mouse monoclonal antibody raised against amino acids 62-118 mapping near the N-terminus of RASAL1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RASAL1 (B-2) is available conjugated to agarose (sc-398025 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398025 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398025 PE), fluorescein (sc-398025 FITC), Alexa Fluor® 488 (sc-398025 AF488), Alexa Fluor® 546 (sc-398025 AF546), Alexa Fluor® 594 (sc-398025 AF594) or Alexa Fluor® 647 (sc-398025 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398025 AF680) or Alexa Fluor® 790 (sc-398025 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

RASAL1 (B-2) is recommended for detection of RASAL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 RASAL1 siRNA (h): sc-76351, RASAL1 siRNA (m): sc-76352, RASAL1 shRNA Plasmid (h): sc-76351-SH, RASAL1 shRNA Plasmid (m): sc-76352-SH, RASAL1 shRNA (h) Lentiviral Particles: sc-76351-V and RASAL1 shRNA (m) Lentiviral Particles: sc-76352-V.

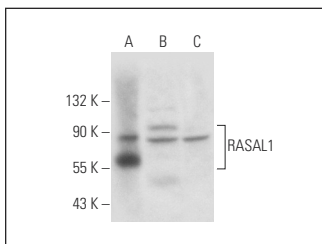
Molecular Weight of RASAL1: 90 kDa.

Positive Controls: human thyroid extract: sc-363782, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



RASAL1 (B-2): sc-398025. Western blot analysis of RASAL1 expression in human thyroid tissue extract (A) and Jurkat (B) and A-431 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Liu, C., et al. 2021. Twist1 contributes to developing and sustaining corticosteroid resistance in ulcerative colitis. *Theranostics* 11: 7797-7812.

STORAGE

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

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