

Rap 1A (C-10): sc-373968

BACKGROUND

Ras oncogenes encode GTP-binding proteins that are capable of transforming immortalized cells in culture. Two Ras-related human genes, designated RAP1A and RAP1B, encode 95% homologous proteins (namely Rap 1A and Rap 1B) that share a similar C-terminal Cys-Ali-Ali-Xaa sequence with Ras proteins and are ubiquitously expressed in mammalian tissues. The putative "effector" domain of Ras proteins, whose integrity is required for cell transformation as well as interaction with the putative effector protein GAP, is conserved in both Rap 1 proteins. Rap 1A is thought to interfere with Ras effector function by binding to Ras GAP in a GTP-dependent manner without affecting Rap 1A GTPase activity. Rap 2, another Ras-related protein, shares 60% identity with Rap 1A and exhibits a carboxy-terminal CAAX motif and two upstream cysteines similar to those of the H-Ras, K-Ras and N-Ras proteins. In contrast with Rap 1A and Rap 1B, overexpression of Rap 2 does not interfere with the Ras signaling pathway.

REFERENCES

1. Pizon, V., et al. 1988. Human cDNAs Rap1 and Rap2 homologous to the *Drosophila* gene Dras3 encode proteins closely related to Ras in the "effector" region. *Oncogene* 3: 201-204.
2. Pizon, V., et al. 1988. Nucleotide sequence of a human cDNA encoding a Ras-related protein (Rap1B). *Nucleic Acids Res.* 16: 7719.

CHROMOSOMAL LOCATION

Genetic locus: RAP1A (human) mapping to 1p13.2; Rap1a (mouse) mapping to 3 F2.2.

SOURCE

Rap 1A (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 159-184 at the C-terminus of Rap 1A of human origin.

PRODUCT

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

Rap 1A (C-10) is available conjugated to agarose (sc-373968 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373968 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373968 PE), fluorescein (sc-373968 FITC), Alexa Fluor[®] 488 (sc-373968 AF488), Alexa Fluor[®] 546 (sc-373968 AF546), Alexa Fluor[®] 594 (sc-373968 AF594) or Alexa Fluor[®] 647 (sc-373968 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373968 AF680) or Alexa Fluor[®] 790 (sc-373968 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373968 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

Rap 1A (C-10) is recommended for detection of Rap 1A 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).

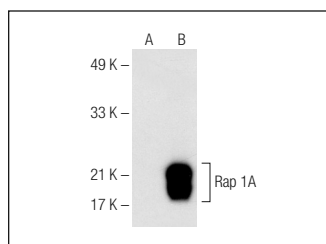
Rap 1A (C-10) is also recommended for detection of Rap 1A in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Rap 1A siRNA (h): sc-41852, Rap 1A siRNA (m): sc-41853, Rap 1A shRNA Plasmid (h): sc-41852-SH, Rap 1A shRNA Plasmid (m): sc-41853-SH, Rap 1A shRNA (h) Lentiviral Particles: sc-41852-V and Rap 1A shRNA (m) Lentiviral Particles: sc-41853-V.

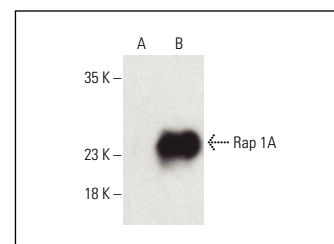
Molecular Weight of Rap 1A: 22 kDa.

Positive Controls: human platelet extract: sc-363773 or Rap 1A (m): 293T Lysate: sc-122963.

DATA



Rap 1A (C-10): sc-373968. Western blot analysis of Rap 1A expression in non-transfected: sc-117752 (A) and mouse Rap 1A transfected: sc-122963 (B) 293T whole cell lysates.



Rap 1A (C-10) HRP: sc-373968 HRP. Direct western blot analysis of Rap 1A expression in non-transfected: sc-117752 (A) and mouse Rap 1A transfected: sc-122963 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ramos, C.J., et al. 2018. The EPAC-Rap1 pathway prevents and reverses cytokine-induced retinal vascular permeability. *J. Biol. Chem.* 293: 717-730.
2. Hokugo, A., et al. 2019. Rescue bisphosphonate treatment of alveolar bone improves extraction socket healing and reduces osteonecrosis in zoledronate-treated mice. *Bone* 123: 115-128.
3. Bisso, S., et al. 2019. Dual delivery of nucleic acids and PEGylated-bisphosphonates via calcium phosphate nanoparticles. *Eur. J. Pharm. Biopharm.* 142: 142-152.
4. Liu, X., et al. 2020. Multiple protein and mRNA expression correlations in the rat cerebral cortex after ischemic injury and repair due to buchang naoxintong jiaonang (BNJ) intervention. *Biomed. Pharmacother.* 125: 109917.

STORAGE

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