SANTA CRUZ BIOTECHNOLOGY, INC.

# Rap 2A/B/C (C-2): sc-515711

## 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 Rap 1 and Rap 2 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 (Rap 1B). Nucleic Acids Res. 16: 7719.
3. Culine, S., et al. 1989. Expression of the Ras-related Rap genes in human tumors. Int. J. Cancer 44: 990-994.
4. Kitayama, H., et al. 1989. A Ras-related gene with transformation suppressor activity. Cell 56: 77-84.
5. Kim, S., et al. 1990. Tissue and subcellular distributions of the smg-21/Rap 1/Krev-1 proteins which are partly distinct from those of c-Ras p21s. Mol. Cell. Biol. 10: 2645-2652.
6. Frech, M., et al. 1990. Inhibition of GTPase activating protein stimulation of Ras-p21 GTPase by the Krev-1 gene product. Science 249: 169-171.
7. Beranger, F., et al. 1991. Posttranslational processing and subcellular localization of the Ras-related Rap 2 protein. Oncogene 6: 1835-1842.


## SOURCE

Rap 2A/B/C (C-2) is a mouse monoclonal antibody raised against amino acids 1-183 representing full length Rap 2A of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rap 2A/B/C (C-2) is available conjugated to agarose (sc-515711 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515711 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515711 PE), fluorescein (sc-515711 FITC), Alexa Fluor® 488 (sc-515711 AF488), Alexa Fluor® 546 (sc-515711 AF546), Alexa Fluor® 594 (sc-515711 AF594) or Alexa Fluor® 647 (sc-515711 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515711 AF680) or Alexa Fluor® 790 (sc-515711 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Rap 2A/B/C (C-2) is recommended for detection of Rap 2A, Rap 2B and Rap 2C 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).

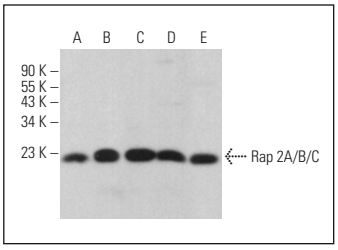
Molecular Weight of Rap 2A/B/C: 21 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, T24 cell lysate: sc-2292 or NIH/3T3 whole cell lysate: sc-2210.

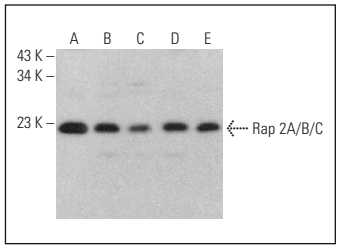
## RECOMMENDED SUPPORT REAGENTS

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




Rap 2A/B/C (C-2): sc-515711. Western blot analysis of Rap 2A/B/C expression in T24 (**A**), HeLa (**B**), NIH/3T3 (**C**) and TK-1 (**D**) whole cell lysates and human bladder tissue extract (**E**).




Rap 2A/B/C (C-2): sc-515711. Western blot analysis of Rap 2A/B/C expression in A-431 (**A**), K-562 (**B**), Jurkat (**C**), MCF7 (**D**) and IMR-32 (**E**) whole cell lysates.

## 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 for detailed protocols and support products.