SANTA CRUZ BIOTECHNOLOGY, INC.

Rap 2 (124): sc-164

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.

CHROMOSOMAL LOCATION

Genetic locus: RAP2A (human) mapping to 13q32.1, RAP2C (human) mapping to Xq26.2; Rap2a (mouse) mapping to 14 E4, Rap2c (mouse) mapping to X A5.

SOURCE

Rap 2 (124) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Rap 2A of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-164 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rap 2 (124) is recommended for detection of Rap 2A and, to a lesser extent, Rap 2C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); may cross-react with Rap 2B.

Rap 2 (124) is also recommended for detection of Rap 2A and, to a lesser extent, Rap 2C in additional species, including equine, canine, bovine and porcine.

Molecular Weight of Rap 2: 21 kDa.

Positive Controls: Rap 2C (m2): 293T Lysate: sc-122971, SW480 cell lysate: sc-2219 or K-562 whole cell lysate: sc-2203.

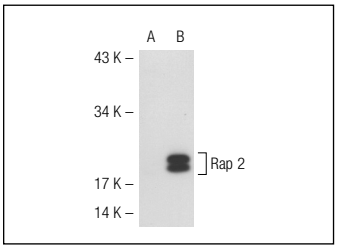
STORAGE

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.

DATA



Rap 2 (124): sc-164. Western blot analysis of Rap 2C expression in non-transfected: sc-117752 (**A**) and mouse Rap 2C transfected: sc-122971 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sunters, A., et al. 1998. Control of cell cycle gene expression in bone development and during c-Fos-induced osteosarcoma formation. Dev. Genet. 22: 386-397.
2. Iwanaga, R., et al. 2001. Molecular mechanism of cell cycle progression induced by the oncogene product Tax of human T cell leukemia virus type I. Oncogene 20: 2055-2067.
3. Farina, A., et al. 2004. Bromodomain protein Brd4 binds to GTPase-activating SPA-1, modulating its activity and subcellular localization. Mol. Cell. Biol. 24: 9059-9069.
4. Huston, E., et al. 2008. EPAC and PKA allow cAMP dual control over DNA-PK nuclear translocation. Proc. Natl. Acad. Sci. USA 105: 12791-12796.
5. Roscioni, S.S., et al. 2009. PKA and Epac cooperate to augment bradykinin-induced interleukin-8 release from human airway smooth muscle cells. Respir. Res. 10: 88.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.