SANTA CRUZ BIOTECHNOLOGY, INC.

Rap 1A (C-17): sc-1482

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

SOURCE

Rap 1A (C-17) is available as either goat (sc-1482) or rabbit (sc-1482-R) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of Rap 1A of human origin.

PRODUCT

Each vial contains either 100 µg (sc-1482) or 200 µg (sc-1482-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1482 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rap 1A (C-17) is recommended for detection of Rap 1A 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), immunohistochemistry (including paraffin-embedded sections) (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-17) is also recommended for detection of Rap 1A in additional species, including equine, 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.

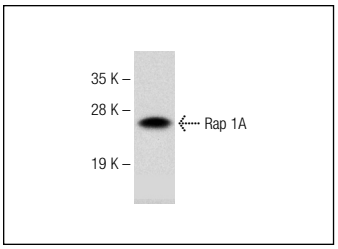
Molecular Weight of Rap 1A: 22 kDa.

Positive Controls: human platelet extract: sc-363773.

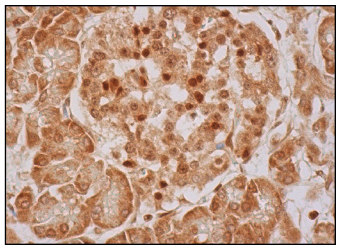
STORAGE

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

DATA



Rap 1A (C-17): sc-1482. Western blot analysis of Rap 1A expression in human platelet extract.



Rap 1A (C-17): sc-1482-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells and Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Hu, C.D., et al. 1999. Effect of phosphorylation on activities of Rap 1A to interact with Raf-1 and to suppress Ras-dependent Raf-1 activation. J. Biol. Chem. 274: 48-51.
2. Ageberg, M., et al. 2011. Inhibition of geranylgeranylation mediates sensitivity to CHOP-induced cell death of DLBCL cell lines. Exp. Cell Res. 317: 1179-1191.
3. Sjogren, A.K., et al. 2011. Inactivating GGTase-I reduces disease phenotypes in a mouse model of K-Ras-induced myeloproliferative disease. Leukemia 25: 186-189.
4. Khan, O.M., et al. 2011. Geranylgeranyltransferase type I (GGTase-I) deficiency hyperactivates macrophages and induces erosive arthritis in mice. J. Clin. Invest. 121: 628-639.
5. Coxon, F.P., et al. 2011. The gunmetal mouse reveals Rab geranylgeranyl transferase to be the major molecular target of phosphonocarboxylate analogues of bisphosphonates. Bone 49: 111-121.
6. Cornish, J., et al. 2011. Bone-bound bisphosphonate inhibits growth of adjacent non-bone cells. Bone 49: 710-716.
7. Leichner, G.S., et al. 2011. Metabolically regulated endoplasmic reticulum-associated degradation of 3-hydroxy-3-methylglutaryl-CoA reductase: evidence for requirement of a geranylgeranylated protein. J. Biol. Chem. 286: 32150-32161.

RESEARCH USE

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