SANTA CRUZ BIOTECHNOLOGY, INC.

pan Ras (FL-189): sc-14022

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mammalian c-H-, c-K- and N-Ras proto-oncogenes encode guanine nucleotide-binding proteins that are ubiquitously expressed in vertebrate cells. c-H- and c-K-Ras are cellular homologs of the v-H and v-K-Ras sequences originally isolated from the Harvey and Kirsten strains of rat sarcoma virus. Ras-encoded proteins bind GDP and GTP with high affinity and possess a low level intrinsic GTPase activity that can be stimulated over 100-fold by interaction with cytosolic GTPase activating protein (GAP), a potential effector for Ras p21 function. Point mutations at amino acids 12, 13, 59 and 61 within domains responsible for GTP binding and hydrolysis activate Ras proteins to their oncogenic form and block the ability of the GTPase activity to be stimulated by GAP. Several additional proteins with GAP activity have been identified and shown to interact with p21 Ras or other members of the Ras gene family.

SOURCE

pan Ras (FL-189) is a rabbit polyclonal antibody raised against amino acids 1-189 representing full length pan Ras 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.

APPLICATIONS

pan Ras (FL-189) is recommended for detection of N-Ras, H-Ras and K-Ras p21 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).

pan Ras (FL-189) is also recommended for detection of N-Ras, H-Ras and K-Ras p21 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of pan Ras: 21 kDa.

Positive Controls: K-Ras (m): 293T Lysate: sc-121173, A-10 cell lysate: sc-3806 or PC-3 ccell lysate: sc-2220.

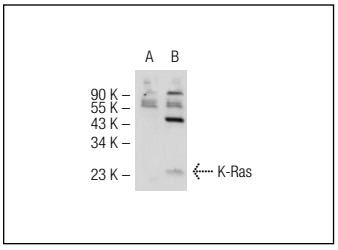
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

DATA



pan Ras (FL-189): sc-14022. Western blot analysis of K-Ras expression in non-transfected: sc-117752 (**A**) and mouse K-Ras transfected: sc-121173 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Son, H., et al. 2002. Reciprocal actions of NCAM and tPA via a Ras-dependent MAPK activation in rat hippocampal neurons. Biochem. Biophys. Res. Commun. 298: 262-268.
2. Balduini, A., et al. 2004. Expression, activation, and subcellular localization of the Rap1 GTPase in cord blood-derived human megakaryocytes. Exp. Cell Res. 300: 84-93.
3. Senokuchi, T., et al. 2005. Statins suppress oxidized low density lipoprotein-induced macrophage proliferation by inactivation of the small G protein-p38 MAPK pathway. J. Biol. Chem. 280: 6627-6633.
4. Ford, B., et al. 2005. Structure of the G60A mutant of Ras: implications for the dominant negative effect. J. Biol. Chem. 280: 25697-25705.
5. Ogunwobi, O.O., et al. 2008. Statins inhibit proliferation and induce apoptosis in Barrett's esophageal adenocarcinoma cells. Am. J. Gastroenterol. 103: 825-837.
6. Ford, B., et al. 2009. Characterization of a Ras mutant with identical GDP- and GTP-bound structures. Biochemistry 48: 11449-11457.
7. Hong, I.K., et al. 2012. Tetraspanin CD151 stimulates adhesion-dependent activation of Ras, Rac, and Cdc42 by facilitating molecular association between β1 integrins and small GTPases. J. Biol. Chem. 287: 32027-32039.

RESEARCH USE

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