

pan Ras (F132): sc-32

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.

REFERENCES

1. Shih, T.Y., et al. 1980. Guanine nucleotide-binding and autophosphorylating activities associated with the p21src protein of Harvey murine sarcoma virus. *Nature* 287: 686-691.
2. Ellis, R.W., et al. 1981. The p21 src genes of Harvey and Kirsten sarcoma viruses originate from divergent members of a family of normal vertebrate genes. *Nature* 292: 506-511.
3. Trahey, M. and McCormick, F. 1987. A cytoplasmic protein stimulates normal N-ras p21 GTPase, but does not affect oncogenic mutants. *Science* 238: 542-545.

SOURCE

pan Ras (F132) is a mouse monoclonal antibody raised against Ras protein.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

pan Ras (F132) is recommended for detection of antigenic determinants common to H-Ras, K-Ras and N-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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of pan Ras: 21 kDa.

Positive Controls: HISM cell lysate: sc-2229, PC-3 cell lysate: sc-2220 or A-10 cell lysate: sc-3806.

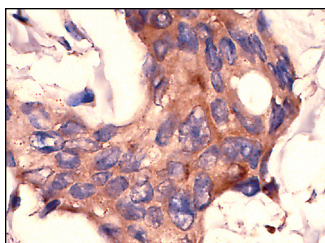
STORAGE

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



pan Ras (F132): sc-32. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tumor showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Aftab, D.T., et al. 1997. Ras-independent transformation by v-Src. *Proc. Natl. Acad. Sci. USA* 94: 3028-3033.
2. Chan, K.C., et al. 2009. Mulberry leaf extract inhibits vascular smooth muscle cell migration involving a block of small GTPase and Akt/NFκB signals. *J. Agric. Food Chem.* 57: 9147-9153.
3. Kupzig, S., et al. 2009. The ability of GAP1IP4BP to function as a Rap1 GTPase-activating protein (GAP) requires its Ras GAP-related domain and an arginine finger rather than an asparagine thumb. *Mol. Cell. Biol.* 29: 3929-3940.
4. Palozza, P., et al. 2010. Lycopene induces cell growth inhibition by altering mevalonate pathway and Ras signaling in cancer cell lines. *Carcinogenesis* 31: 1813-1821.
5. Wang, H.C., et al. 2010. *Solanum nigrum* Linn. water extract inhibits metastasis in mouse melanoma cells *in vitro* and *in vivo*. *J. Agric. Food Chem.* 58: 11913-11923.
6. Bhandari, D.R., et al. 2010. REX-1 expression and p38 MAPK activation status can determine proliferation/differentiation fates in human mesenchymal stem cells. *PLoS ONE* 5: e10493.
7. Lin, H.H., et al. 2011. Protocatechuic acid inhibits cancer cell metastasis involving the down-regulation of Ras/Akt/NFκB pathway and MMP-2 production by targeting RhoB activation. *Br. J. Pharmacol.* 162: 237-254.
8. Bhandari, D.R., et al. 2011. The regulatory role of c-MYC on HDAC2 and PcG expression in human multipotent stem cells. *J. Cell. Mol. Med.* 15: 1603-1614.

CONJUGATES

See **pan Ras (C-4): sc-166691** for pan Ras antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.