SANTA CRUZ BIOTECHNOLOGY, INC.

Sos 1/2 (D-21): sc-259

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The superfamily of GTP-binding proteins, of which Ras proteins are prototypes, has been implicated in a broad range of biological activities. Studies have identified a family of guanine nucleotide releasing factors (GRFs) that activate Ras in mammalian cells and an "adapter" protein (Sem 5/GRB2) that appears to mediate the interaction of GRFs with activated receptor molecules. Ras-GRF p140 promotes nucleotide exchange on Ras p21s but not on other members of the Ras gene superfamily. In addition, three mammalian homologs of the *Drosophila* Ras-GRF, son of sevenless (Sos), have been described. These include two from mouse, mSos 1 and mSos 2, and one from human, hSos. Vav p95 has been reported to function as a GRF in activation of Ras by the T cell receptor and has been reported to have a domain similar to that of Dbl p115, which is a GRF specific for Cdc42Hs. Subsequent to activation, Ras appears to interact with Raf, thereby activating the MAP kinase phosphorylation pathway.

CHROMOSOMAL LOCATION

Genetic locus: SOS1 (human) mapping to 2p22.1, SOS2 (human) mapping to 14q21.3; Sos1 (mouse) mapping to 17 E3, Sos2 (mouse) mapping to 12 C2.

SOURCE

Sos 1/2 (D-21) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the N-terminus of Sos 1/2 of mouse 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-259 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sos 1/2 (D-21) is recommended for detection of Sos 1 p170 and Sos 2 p155 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Sos 1/2 (D-21) is also recommended for detection of Sos 1 p170 and Sos 2 p155 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Sos 1: 170 kDa.

Molecular Weight of Sos 2: 155 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

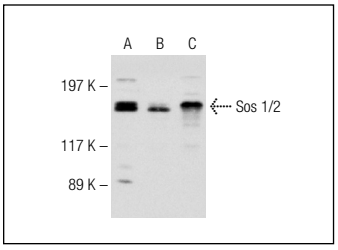
RESEARCH USE

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

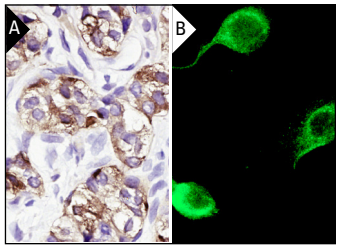
STORAGE

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

DATA



Sos 1/2 (D-21): sc-259. Western blot analysis of Sos isoform expression in A-431 (**A**), K-562 (**B**) and NIH/3T3 (**C**) whole cell lysates.



Sos 1/2 (D-21): sc-259. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor (**A**) and immunofluorescence staining of methanol-fixed NIH/3T3 cells (**B**) showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Ruzycky, A.L. 1995. Effects of 17 β-estradiol and progesterone on mitogen-activated protein kinase expression and activity in rat uterine smooth muscle. Eur. J. Pharmacol. 300: 247-254.
2. Fan, P.D., et al. 2000. Abl interactor 1 binds to sos and inhibits epidermal growth factor- and v-Abl-induced activation of extracellular signal-regulated kinases. Mol. Cell. Biol. 20: 7591-7601.
3. Wheeler, M., et al. 2001. Recruitment of the class II phosphoinositide 3-kinase C2β to the epidermal growth factor receptor: role of GRB2. Mol. Cell. Biol. 21: 6660-6667.
4. Li, S., et al. 2001. Tyrosine phosphorylation of GRB2 by Bcr/Abl and epidermal growth factor receptor: a novel regulatory mechanism for tyrosine kinase signaling. EMBO J. 20: 6793-6804.
5. Martinu, L., et al. 2002. Endocytosis of epidermal growth factor receptor regulated by GRB2-mediated recruitment of the Rab 5 GTPase-activating protein RN-tre. J. Biol. Chem. 277: 50996-51002.
6. Chesnel, F., et al. 2003. Molecular cloning and characterization of an adaptor protein Shc isoform from *Xenopus laevis* oocytes. Biol. Cell 95: 311-320.
7. Kracklauer, M.P., et al. 2003. TGFβ1 signaling via $\alpha_V\beta_6$ integrin. Mol. Cancer 2: 28.
8. Aksamitiene, E., et al. 2011. Prolactin-stimulated activation of ERK1/2 mitogen-activated protein kinases is controlled by PI3-kinase/Rac/PAK signaling pathway in breast cancer cells. Cell. Signal. 23: 1794-1805.