SANTA CRUZ BIOTECHNOLOGY, INC.

Sos 2 (B-6): sc-393667

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.

REFERENCES

1. Lowenstein, E.J., et al. 1992. The SH2 and SH3 domain-containing protein GRB2 links receptor tyrosine kinases to Ras signaling. Cell 40: 431-442.
2. Chardin, P., et al. 1993. Human Sos 1: a guanine nucleotide exhange factor for Ras that binds to GRB2. Science 260: 1338-1343.

CHROMOSOMAL LOCATION

Genetic locus: SOS2 (human) mapping to 14q21.3; Sos2 (mouse) mapping to 12 C2.

SOURCE

Sos 2 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1268-1297 at the C-terminus of Sos 2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sos 2 (B-6) is available conjugated to agarose (sc-393667 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393667 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393667 PE), fluorescein (sc-393667 FITC), Alexa Fluor® 488 (sc-393667 AF488), Alexa Fluor® 546 (sc-393667 AF546), Alexa Fluor® 594 (sc-393667 AF594) or Alexa Fluor® 647 (sc-393667 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393667 AF680) or Alexa Fluor® 790 (sc-393667 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393667 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Sos 2 (B-6) is recommended for detection of Sos 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Sos 2 siRNA (h): sc-36525, Sos 2 siRNA (m): sc-36526, Sos 2 shRNA Plasmid (h): sc-36525-SH, Sos 2 shRNA Plasmid (m): sc-36526-SH, Sos 2 shRNA (h) Lentiviral Particles: sc-36525-V and Sos 2 shRNA (m) Lentiviral Particles: sc-36526-V.

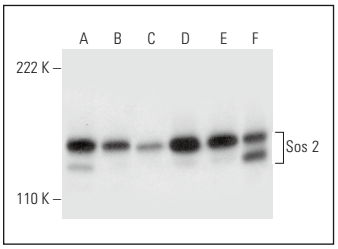
Molecular Weight of Sos 2: 155 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, K-562 whole cell lysate: sc-2203 or A549 cell lysate: sc-2413.

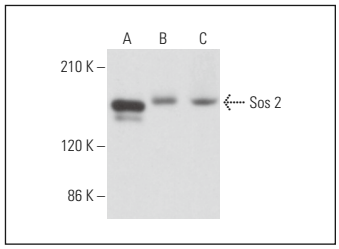
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Sos 2 (B-6): sc-393667. Western blot analysis of Sos 2 expression in NIH/3T3 (**A**), J774.A1 (**B**), A-431 (**C**), K-562 (**D**), A549 (**E**) and HL-60 (**F**) whole cell lysates.



Sos 2 (B-6): sc-393667. Western blot analysis of Sos 2 expression in K-562 (**A**), A-10 (**B**) and NIH/3T3 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kaur, N., et al. 2022. A novel anti-proliferative PKCα-Ras-ERK signaling axis in intestinal epithelial cells. J. Biol. Chem. 298: 102121.
2. Marasco, M., et al. 2024. Concurrent SOS1 and MEK suppression inhibits signaling and growth of NF1-null melanoma. Cell Rep. Med. 5: 101818.

RESEARCH USE

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