SANTA CRUZ BIOTECHNOLOGY, INC.

Vav2 (F-6): sc-271442

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Vav gene was originally identified on the basis of its oncogenic activation during the course of gene transfer assays. The major translational product of the Vav proto-oncogene has been identified as a protein containing an array of structural motifs. This protein, known as Vav, Vav1 or p95Vav, contains an N-terminal helix-loop-helix domain and a leucine zipper motif similar to that of Myc family proteins that, if deleted, causes oncogenic activation. In addition, Vav contains an SH2 domain, which could indicate its role as a substrate for tyrosine kinases. Expression of Vav is limited exclusively to cells of hematopoietic origin, including those of the erythroid, lymphoid and myeloid lineages. These results suggest that Vav may represent a new type of signal transduction molecule involved in the transduction of tyrosine phosphorylation signaling into transcriptional events. Vav2 is a member of the Vav family of oncoproteins and acts as a guanosine nucleotide exchange factor (GEF) for RhoG and RhoA-like GTPases in a phosphotyrosine-dependent manner.

CHROMOSOMAL LOCATION

Genetic locus: VAV2 (human) mapping to 9q34.2; Vav2 (mouse) mapping to 2 A3.

SOURCE

Vav2 (F-6) is a mouse monoclonal antibody raised against amino acids 131-330 mapping near the N-terminus of Vav2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Vav2 (F-6) is available conjugated to agarose (sc-271442 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271442 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271442 PE), fluorescein (sc-271442 FITC), Alexa Fluor® 488 (sc-271442 AF488), Alexa Fluor® 546 (sc-271442 AF546), Alexa Fluor® 594 (sc-271442 AF594) or Alexa Fluor® 647 (sc-271442 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271442 AF680) or Alexa Fluor® 790 (sc-271442 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Vav2 (F-6) is recommended for detection of Vav2 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 Vav2 siRNA (h): sc-41738, Vav2 siRNA (m): sc-41739, Vav2 shRNA Plasmid (h): sc-41738-SH, Vav2 shRNA Plasmid (m): sc-41739-SH, Vav2 shRNA (h) Lentiviral Particles: sc-41738-V and Vav2 shRNA (m) Lentiviral Particles: sc-41739-V.

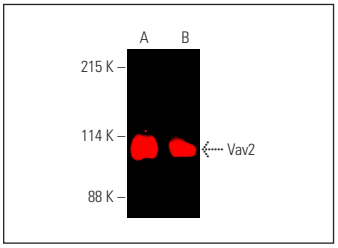
Molecular Weight of Vav2: 100 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

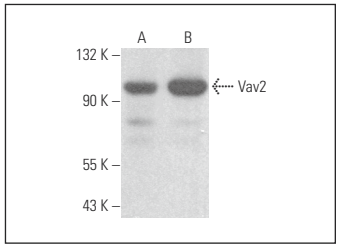
STORAGE

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

DATA



Vav2 (F-6): sc-271442. Near-infrared western blot analysis of Vav2 expression in HeLa (**A**) and A-431 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



Vav2 (F-6): sc-271442. Western blot analysis of Vav2 expression in HEK293 (**A**) and A-431 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. He, Z., et al. 2014. Diosgenin inhibits the migration of human breast cancer MDA-MB-231 cells by suppressing Vav2 activity. Phytomedicine 21: 871-876.
2. Yang, C.Y., et al. 2019. Src and SHP2 coordinately regulate the dynamics and organization of vimentin filaments during cell migration. Oncogene 38: 4075-4094.
3. Liu, W., et al. 2021. Vav2 is required for DNA repair and implicated in cancer radiotherapy resistance. Signal Transduct. Target. Ther. 6: 322.
4. Qin, L., et al. 2021. Dynamic interplay of two molecular switches enabled by the MEK1/2-ERK1/2 and IL-6-Stat3 signaling axes controls epithelial cell migration in response to growth factors. J. Biol. Chem. 297: 101161.
5. Tang, C., et al. 2022. Hedgehog signaling is controlled by Rac1 activity. Theranostics 12: 1303-1320.
6. Faria, M., et al. 2022. Adherens junction integrity is a critical determinant of sodium iodide symporter residency at the plasma membrane of thyroid cells. Cancers 14: 5362.
7. Pinilla-Macua, I., et al. 2025. Cell migration signaling through the EGFR-VAV2-Rac1 pathway is sustained in endosomes. J. Cell Sci. 138: jcs263541.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.