



Vav (110-320): sc-4262 WB

BACKGROUND

Vav (VAV, VAV1) is a proto-oncogene of the Dbl family of guanine nucleotide exchange factors (GEF) for the Rho family of GTP binding proteins. Vav protein is important in hematopoiesis, playing a role in T cell and B cell development and activation. Vav is the specific binding partner of Nef proteins from HIV-1. Coexpression and binding of these partners initiates profound morphological changes, cytoskeletal rearrangements and the JNK/SAPK signaling cascade, leading to increased levels of viral transcription and replication. Vav functions as an adaptor protein responsible for targeting PI 3-K to its intranuclear substrates. Vav is regulated by Cbl in human and mouse cells. Vav becomes an ectopically expressed, growth-stimulatory protein in primary pancreatic adenocarcinomas due to demethylation of the gene promoter.

REFERENCES

1. Katzav, S., Martin-Zanca, D., and Barbacid, M. 1989. Vav, a novel human oncogene derived from a locus ubiquitously expressed in hematopoietic cells. *EMBO J.* 8: 2283-2290.
2. Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. *Cell* 61: 203-212.
3. Katzav, S., Cleveland, J.L., Heslop, H.E., and Pulido, D. 1991. Loss of the amino-terminal helix-loop-helix domain of the Vav proto-oncogene activates its transforming potential. *Mol. Cell. Biol.* 11: 1912-1920.
4. Coppola, J., Bryant, S., Koda, T., Conway, D., and Barbacid, M. 1991. Mechanism of activation of the Vav proto-oncogene. *Cell Growth Differ.* 2: 95-105.
5. Bustelo, X.R. and Barbacid, M. 1992. Tyrosine phosphorylation of the Vav proto-oncogene product in activated B cells. *Science* 256: 1196-1199.
6. Bustelo, X.R., Ledbetter, J.A., and Barbacid, M. 1992. Product of Vav proto-oncogene defines a new class of tyrosine protein kinase substrates. *Nature* 356: 68-71.
7. Margolis, B., Hu, P., Katzav, S., Li, W., Oliver, J.M., Ullrich, A., Weiss, A., and Schlessinger, J. 1992. Tyrosine phosphorylation of Vav proto-oncogene product containing SH2 domain and transcription factor motifs. *Nature* 356: 71-74.
8. Miura-Shimura, Y., et al. 2003. Cbl-mediated ubiquitinylation and negative regulation of Vav. *J. Biol. Chem.* 278: 38495-38504.
9. Hornstein, I., et al. 2004. Vav proteins, masters of the world of cytoskeleton organization. *Cell Signal.* 16: 1-11.
10. Gakidis, M.A., et al. 2004. Vav GEFs are required for β 2 integrin-dependent functions of neutrophils. *J. Cell Biol.* 166: 273-282.
11. Hebeis, B., et al. 2005. Vav proteins are required for B-lymphocyte responses to LPS. *Blood* 106: 635-640.

SOURCE

Vav (110-320) is expressed in *E. coli* as a 50 kDa tagged fusion protein corresponding to amino acids 110-320 of Vav of human origin.

PRODUCT

Vav (110-320) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Vav (110-320) is suitable as a Western blotting control for sc-7206 and sc-8039.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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