

# Vav3 (K-19): sc-28474

## BACKGROUND

The Vav family of Rho guanine nucleotide exchange factors (GEFs) orchestrate signaling events following lymphocyte antigen receptor activation. Vav3, like Vav1, undergoes tyrosine phosphorylation downstream of T cell receptor cross-linkage, and subsequently interacts with two adaptor molecules, SLP76 and 3BP2. Following these events, however, the paths of Vav1 and Vav3 diverge; Vav1 affects IL-2 promoter activity, while Vav3 impacts gene transcription linked to serum response element (SRE). Furthermore, Vav3 expression follows a cell cycle-dependent pattern, with transient upregulation occurring during mitosis. Enforced Vav3 expression leads to the appearance of multinucleate cells, implicating a role for Vav3 in the control of cytokinesis.

## REFERENCES

- Romero, F., et al. 1996. p95vav associates with the nuclear protein Ku-70. *Mol. Cell. Biol.* 16: 37-44.
- Adam, L., et al. 2000. Interferon- $\alpha$  signaling promotes nucleus-to-cytoplasmic redistribution of p95Vav, and formation of a multisubunit complex involving Vav, Ku80, and Tyk2. *Biochem. Biophys. Res. Commun.* 267: 692-696.
- Fujikawa, K., et al. 2002. Vav3 is regulated during the cell cycle and effects cell division. *Proc. Natl. Acad. Sci. USA* 99: 4313-4318.
- Fujikawa, K., et al. 2003. Vav1/2/3-null mice define an essential role for Vav family proteins in lymphocyte development and activation but a differential requirement in MAPK signaling in T and B cells. *J. Exp. Med.* 198: 1595-1608.
- Zakaria, S., et al. 2004. Differential regulation of TCR-mediated gene transcription by Vav family members. *J. Exp. Med.* 199: 429-434.

## CHROMOSOMAL LOCATION

Genetic locus: VAV3 (human) mapping to 1p13.3; Vav3 (mouse) mapping to 3 F3.

## SOURCE

Vav3 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Vav3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-28474 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

Vav3 (K-19) is recommended for detection of Vav3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Vav3 (K-19) is also recommended for detection of Vav3 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Vav3 siRNA (h): sc-44187, Vav3 siRNA (m): sc-155095, Vav3 shRNA Plasmid (h): sc-44187-SH, Vav3 shRNA Plasmid (m): sc-155095-SH, Vav3 shRNA (h) Lentiviral Particles: sc-44187-V and Vav3 shRNA (m) Lentiviral Particles: sc-155095-V.

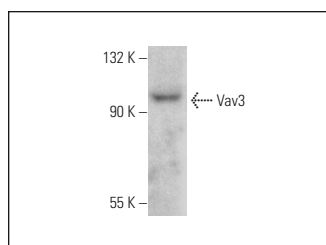
Molecular Weight of Vav3: 98 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

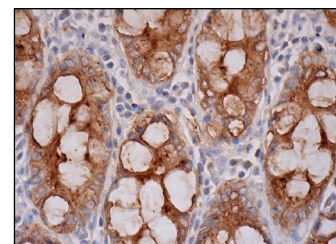
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Vav3 (K-19): sc-28474. Western blot analysis of Vav3 expression in Jurkat whole cell lysate.



Vav3 (K-19): sc-28474. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Chuang, H.C., et al. 2011. The kinase GLK controls autoimmunity and NF $\kappa$ B signaling by activating the kinase PKC- $\theta$  in T cells. *Nat. Immunol.* 12: 1113-1118.