

Background

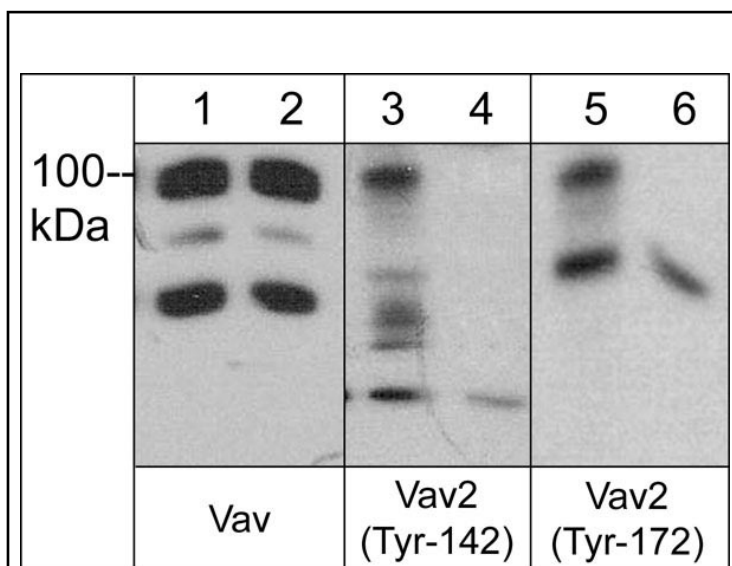
The Vav family of Rho-guanine nucleotide exchange factors, Vav1, Vav2, and Vav3, have central roles in transducing signals from cell surface receptors, such as integrin, growth factor and immune cell receptors to the cytoskeleton. This role includes receptor-mediated changes in the actin cytoskeleton and cell motility. Vav1 expression is normally restricted to hematopoietic cells, while Vav2 and Vav3 are more widely expressed. All three Vav isoforms have been shown to be abnormally expressed in several types of cancer. Vavs are composed of multiple domains, including a Dbl homology domain, a calponin homology domain, an acidic amino acid region, a pleckstrin homology domain, a cysteine-rich domain, and SH3 and SH2 domains. Vav activity is regulated by the phosphorylation status of several conserved tyrosine residues in the acidic region (In Vav2: Tyr-142, Tyr-159, and Tyr-172). These tyrosine residues are able to participate in autoinhibitory interactions with the Dbl homology domain and this interaction is prevented after phosphorylation of these sites leading to activation of Vav GEF activity.

Background References

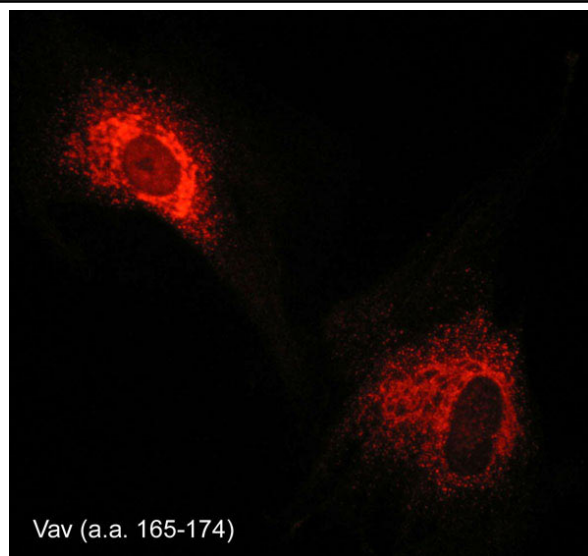
- Schuebel, K.E. et al. (1996) *Oncogene* 13:363.
 Aghazadeh, B. (2000) *Cell* 102:625.
 Wilsbacher, J.L. et al. (2006) *Cell Comm. Signal.* 4:5.

Product Citations

- Guo, M. et al. (2019) *Biochem Biophys Res Comm.* 516(3):914.
WB: mouse lymphocytes



Western blot of human A431 cells treated with EGF (lanes 1, 3, & 5) then the blot was exposed to alkaline phosphatase (lanes 2, 4, & 6). The blots were probed with anti-Vav (a.a. 165-174) (lanes 1 & 2), anti-Vav2 (Tyr-142) (lanes 3 & 4), or anti-Vav2 (Tyr-172) (lanes 5 & 6).



Immunocytochemical labeling of Vav in paraformaldehyde-fixed and NP-40-permeabilized rabbit spleen fibroblasts. The cells were labeled with rabbit polyclonal Vav (a.a. 165-174), and detected using appropriate secondary antibody conjugated to Cy3.

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

Immunogen**Uniprot ID: Q60992**

Vav2 (a.a. 165-174) synthetic peptide (coupled to KLH) corresponding to amino acid residues surrounding Tyr-172 in mouse Vav2. This sequence has high homology with similar regions in rat and human Vav2, and has significant homology to the conserved site in Vav1 and Vav3.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Applications

WB	1:1000
ELISA	1:2000
IP	1:100
ICC	1:50

Species Reactivity

Hu, Rt, Ms

End user should determine optimal dilution for their particular applications and experiments.

Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.

Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot

Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody was affinity purified using Vav2 (a.a. 165-174) peptide (without carrier). The antibody detects a 100 kDa* band corresponding to Vav2 on SDS-PAGE immunoblots of human A431 cells and detects several Vav isoforms in Jurkat cells.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.

"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

VP2521 Vav2 (a.a. 309-322) Rabbit Polyclonal

VP2561 Vav2 (Tyr-142)[conserved site], phospho-specific Rabbit Polyclonal

VP2641 Vav2 (Tyr-172)[conserved site], phospho-specific Rabbit Polyclonal

VP2701 Vav3 (a.a. 293-305) Rabbit Polyclonal

VX2485 Vav2 (a.a. 165-174) Blocking Peptide

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.