

Vav Phospho-Regulation Antibody Sampler Kit

Catalog # **VK6020**

Kit Summary:

The Vav phospho-regulation antibody sampler kit can be used to examine the level of phosphorylation of Vav2 (Tyr-142) and Vav2 (Tyr-172), as well as the conserved sites in Vav1 and Vav2. In addition, antibodies are provided to monitor the total expression level of Vav1, Vav2, and Vav3.

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.

References:

Schuebel, K.E. et al. (1996) *Oncogene* 13:363. (Background)
 Movilla, N. et al. (1999) *Mol. Cell. Biol.* 19:7870. (Background)
 Aghazadeh, B. (2000) *Cell* 102:625. (Background)
 Wilsbacher, J.L. et al. (2006) *Cell Comm. Signal.* 4:5. (Background)

VP2641

Afshari, F.T. et al. (2010) *J Neurosci.* 30(12):4246. (ICC: rat schwann cells)

Kit Components:

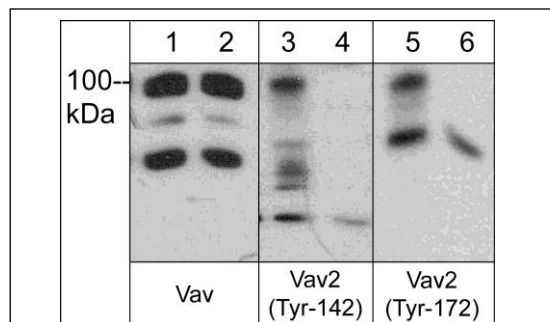
Catalog#	Description	Host	Size	Applications	Species Reactivity	MW (kDa)
VP2521	Vav2 (a.a. 309-322)	Rabbit pAb	50 µl	WB, E, ICC	H, R, M, C	100
VP2561	Vav2 (Tyr-142), phospho-specific [Conserved site]	Rabbit pAb	50 µl	WB, E, ICC	H, R, M, C	100
VP2641	Vav2 (Tyr-172), phospho-specific [Conserved site]	Rabbit pAb	50 µl	WB, E, ICC	H, R, M	100
VP2701	Vav3 (a.a. 293-305)	Rabbit pAb	50 µl	WB, E	H, R, M	98
VP2481	Vav (a.a. 165-174) [Conserved site]	Rabbit pAb	50 µl	WB, E	H, R, M	100

Applications: WB = western blot, IP = immunoprecipitation, ICC = immunocytochemistry, IHC = immunohistochemistry, E = ELISA

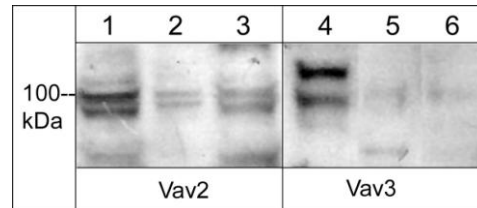
Species: H = Human, R = Rat, M = Mouse, B = Bovine, C = Chicken

Buffers and Storage:

Rabbit polyclonal, affinity-purified antibodies are each supplied in 50µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.



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).



Western blot of human Jurkat (lanes 1 & 4), HUVEC (lanes 2 & 5), and A431 (lanes 3 & 6) cells. The blots were probed with anti-Vav2 (a.a. 309-322) at a dilution of 1:500 (lanes 1-3) and anti-Vav3 (a.a. 293-305) at 1:500 (lanes 4-6).

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www.ecmbiosciences.com
 telephone: 859-879-2075
 toll-free: 1-800-859-8202
 info@ecmbiosciences.com

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