abcam

ab76225

Anti-VAV1 (phospho Y174) antibody [EP510Y]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.05% Sodium azide Constituents: 50% Tissue culture supernatant, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP510Y
Purification technique	Affinity purification Protein A
Concentration	0.194 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Synthetic peptide
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Synthetic peptide
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information VAV1 pY174

Function	Couples tyrosine kinase signals with the activation of the Rho/Rac GTPases, thus leading to cell differentiation and/or proliferation.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	VAV1 also known as VAV-1 is a guanine nucleotide exchange factor with a mass of approximately 95 kDa. It activates Rho family GTPases by promoting the exchange of GDP for GTP. VAV1 is mainly expressed in hematopoietic cells playing an important role in immune responses. Its structure includes several domains – Dbl homology pleckstrin homology and an SH3 domain – that contribute to its function by facilitating interactions with other proteins.
Biological function summary	VAV1 regulates the signaling processes that lead to actin cytoskeletal rearrangements cell proliferation and differentiation. It forms part of larger multiprotein complexes that transmit signals from the cell surface to the nucleus. The activity of VAV1 is important for normal lymphocyte development and activation. By interacting with surface receptors it influences downstream effects altering cellular behavior and promoting adaptive immune responses.
Pathways	VAV1 is integral to the T cell receptor (TCR) signaling pathway and the B cell receptor (BCR) pathway. It acts as a link between the receptors and the Rho family of GTPases such as Rac1 and Cdc42 mediating the transmission of signals that result in cellular responses. The coupling of VAV1 with proteins like LAT and SLP-76

strengthens the signaling cascade necessary for lymphocyte activation and proliferation.

Associated diseases and disorders

Deregulation of VAV1 is associated with certain cancers such as leukemia and lymphoma. Changes in VAV1 expression or activity can disrupt normal immune cell signaling promoting unchecked growth and survival of malignant cells. Additionally VAV1 is linked to autoimmune diseases where its altered function can lead to inappropriate immune responses. VAV1 interactions with proteins like ZAP-70 highlight its role in these pathologies highlighting its significance as a potential therapeutic target.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

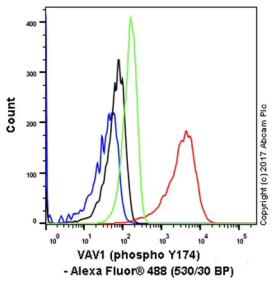
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images

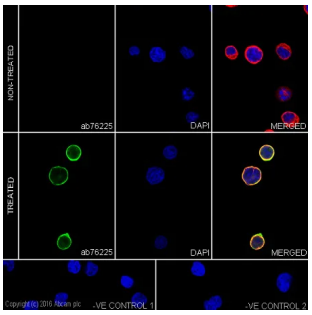


Flow Cytometry (Intracellular) - Anti-VAV1 (phospho Y174) antibody [EP510Y] (ab76225)

VAV1 (phospho Y174) Flow Cytometry (Intracellular) staining using rabbit Anti-VAV1 (phospho Y174) antibody

Intracellular Flow Cytometry analysis of Jurkat (human acute T cell leukemia) untreated/treated with 1mM pervanadate for 30min cells labeling VAV1 with unpurified ab76225 at 1/200 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90%

methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control. Untreated control (Green).

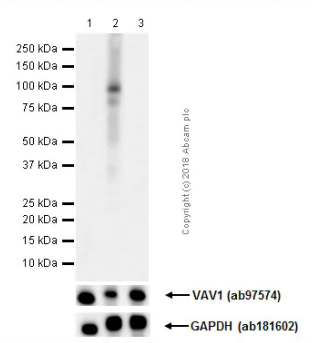


Immunocytochemistry/ Immunofluorescence - Anti-VAV1 (phospho Y174) antibody [EP510Y] (ab76225)

VAV1 (phospho Y174) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-VAV1 (phospho Y174) antibody

Immunocytochemistry/Immunofluorescence analysis of Untreated Jurkat cells and Pervanadate (1mM,30min) treated Jurkat cells labelling VAV1 (phospho Y174) with purified ab76225 at 1/500. Cells were fixed with 4% PFA and permeabilized with 0.1% Triton X-100, and counterstained with ab7291 anti-Tubulin (mouse mAb) 1:1000 (1ug/ml). An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody (ab150077). Nuclei counterstained with DAPI (blue).
Negative Control 1: Rabbit primary antibody and anti-mouse secondary antibody(ab150120)

Negative Control 2: Mouse primary antibody(ab7291) and anti-rabbit secondary antibody(ab150077)



Western blot - Anti-VAV1 (phospho Y174) antibody [EP510Y] (ab76225)

VAV1 (phospho Y174) Western blot staining using rabbit Anti-VAV1 (phospho Y174) antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-VAV1 (phospho Y174) antibody [EP510Y] (ab76225) at 1/1000 dilution

Lane 1:
Jurkat (human T cell leukemia T lymphocyte) whole cell lysate at 10 µg

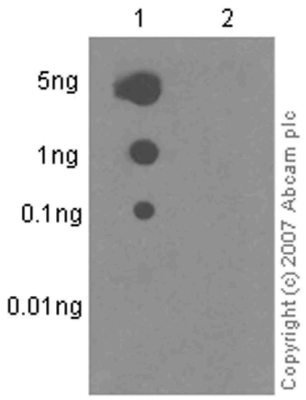
Lane 2:
Jurkat treated with 50mM pervanadate for 5minutes whole cell lysate at 10 µg

Lane 3:
Jurkat treated with 50mM pervanadate for 5min whole cell lysate 10 µg. Then the membrane was incubated with alkaline phosphatase at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 98 kDa



Dot Blot - Anti-VAV1 (phospho Y174) antibody [EP510Y] (ab76225)

Dot blot analysis of VAV1 (pY174) peptide (Lane 1) and VAV1 non-phospho peptide (Lane 2) labelling VAV1 (phospho Y174) with ab76225 at a dilution of 1/1000. A Peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody at a dilution of 1/2500.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.