

**Phospho-ABL1(Y393)/ABL2(439)Antibody**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP3018a**

## Specification

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### Phospho-ABL1(Y393)/ABL2(439)Antibody - Product Information

Application	WB, IHC-P, DB,E
Primary Accession	<a href="#">P00519</a>
Other Accession	<a href="#">Q4JIM5</a> , <a href="#">P42684</a> , <a href="#">P00520</a> , <a href="#">F8W5O8</a>
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG

### Phospho-ABL1(Y393)/ABL2(439)Antibody - Additional Information

#### Gene ID 25

#### Other Names

Tyrosine-protein kinase ABL1, Abelson murine leukemia viral oncogene homolog 1, Abelson tyrosine-protein kinase 1, Proto-oncogene c-Abl, p150, ABL1, ABL, JTK7

#### Target/Specificity

This ABL Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y393 of human ABL1 or Y439 of human ABL2.

#### Dilution

WB~~1:1000  
IHC-P~~1:50~100  
DB~~1:500

#### Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

#### Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

#### Precautions

Phospho-ABL1(Y393)/ABL2(439)Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### Phospho-ABL1(Y393)/ABL2(439)Antibody - Protein Information

Name ABL1

## Synonyms ABL, JTK7

**Function** Non-receptor tyrosine-protein kinase that plays a role in many key processes linked to cell growth and survival such as cytoskeleton remodeling in response to extracellular stimuli, cell motility and adhesion, receptor endocytosis, autophagy, DNA damage response and apoptosis. Coordinates actin remodeling through tyrosine phosphorylation of proteins controlling cytoskeleton dynamics like WASF3 (involved in branch formation); ANXA1 (involved in membrane anchoring); DBN1, DBNL, CTTN, RAPH1 and ENAH (involved in signaling); or MAPT and PXN (microtubule-binding proteins). Phosphorylation of WASF3 is critical for the stimulation of lamellipodia formation and cell migration. Involved in the regulation of cell adhesion and motility through phosphorylation of key regulators of these processes such as BCAR1, CRK, CRKL, DOK1, EFS or NEDD9 (PubMed:[22810897](#)). Phosphorylates multiple receptor tyrosine kinases and more particularly promotes endocytosis of EGFR, facilitates the formation of neuromuscular synapses through MUSK, inhibits PDGFRB-mediated chemotaxis and modulates the endocytosis of activated B-cell receptor complexes. Other substrates which are involved in endocytosis regulation are the caveolin (CAV1) and RIN1. Moreover, ABL1 regulates the CBL family of ubiquitin ligases that drive receptor down-regulation and actin remodeling. Phosphorylation of CBL leads to increased EGFR stability. Involved in late-stage autophagy by regulating positively the trafficking and function of lysosomal components. ABL1 targets to mitochondria in response to oxidative stress and thereby mediates mitochondrial dysfunction and cell death. In response to oxidative stress, phosphorylates serine/threonine kinase PRKD2 at 'Tyr-717' (PubMed:[28428613](#)). ABL1 is also translocated in the nucleus where it has DNA-binding activity and is involved in DNA-damage response and apoptosis. Many substrates are known mediators of DNA repair: DDB1, DDB2, ERCC3, ERCC6, RAD9A, RAD51, RAD52 or WRN. Activates the proapoptotic pathway when the DNA damage is too severe to be repaired. Phosphorylates TP73, a primary regulator for this type of damage- induced apoptosis. Phosphorylates the caspase CASP9 on 'Tyr-153' and regulates its processing in the apoptotic response to DNA damage. Phosphorylates PSMA7 that leads to an inhibition of proteasomal activity and cell cycle transition blocks. ABL1 acts also as a regulator of multiple pathological signaling cascades during infection. Several known tyrosine-phosphorylated microbial proteins have been identified as ABL1 substrates. This is the case of A36R of Vaccinia virus, Tir (translocated intimin receptor) of pathogenic E.coli and possibly Citrobacter, CagA (cytotoxin-associated gene A) of H.pylori, or AnkA (ankyrin repeat-containing protein A) of A.phagocytophilum. Pathogens can hijack ABL1 kinase signaling to reorganize the host actin cytoskeleton for multiple purposes, like facilitating intracellular movement and host cell exit. Finally, functions as its own regulator through autocatalytic activity as well as through phosphorylation of its inhibitor, ABI1. Regulates T-cell differentiation in a TBX21-dependent manner (By similarity). Positively regulates chemokine-mediated T-cell migration, polarization, and homing to lymph nodes and immune-challenged tissues, potentially via activation of NEDD9/HEF1 and RAP1 (By similarity). Phosphorylates TBX21 on tyrosine residues leading to an enhancement of its transcriptional activator activity (By similarity).

## Cellular Location

Cytoplasm, cytoskeleton. Nucleus. Mitochondrion. Note=Shuttles between the nucleus and cytoplasm depending on environmental signals. Sequestered into the cytoplasm through interaction with 14-3-3 proteins. Localizes to mitochondria in response to oxidative stress (By similarity).

## Tissue Location

Widely expressed.

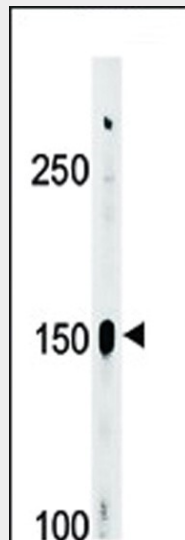
## Phospho-ABL1(Y393)/ABL2(439)Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

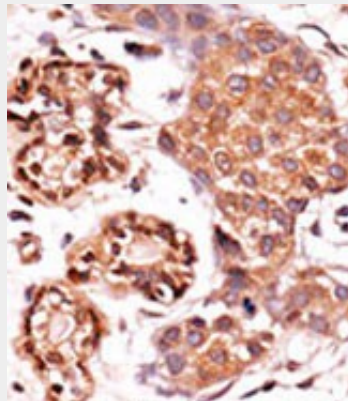
- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

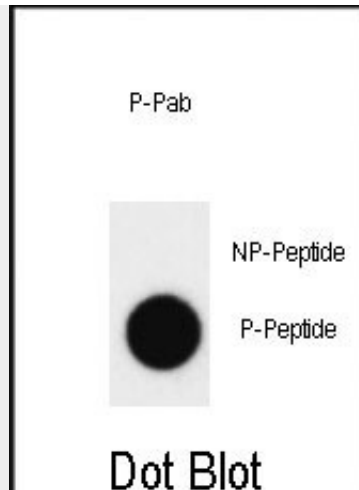
#### Phospho-ABL1(Y393)/ABL2(439)Antibody - Images



Western blot analysis of Phospho-ABL1(Y393)/ABL2(439)Antibody Pab (Cat. #AP3018a) in A2058 cell line lysate (35ug/lane). ABL (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Dot blot analysis of Phospho-ABL1(Y393)/ABL2(439)Antibody Pab (Cat. #AP3018a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

#### **Phospho-ABL1(Y393)/ABL2(439)Antibody - Background**

ABL2 is a cytoplasmic tyrosine kinase which is closely related to but distinct from ABL1. The similarity of the proteins includes the tyrosine kinase domains and extends amino-terminal to include the SH2 and SH3 domains. ABL2 is expressed in both normal and tumor cells.

#### **Phospho-ABL1(Y393)/ABL2(439)Antibody - References**

Cao, C., et al., *Biochemistry* 42(35):10348-10353 (2003). Cao, C., et al., *J. Biol. Chem.* 278(32):29667-29675 (2003). Kruh, G.D., et al., *Proc. Natl. Acad. Sci. U.S.A.* 87(15):5802-5806 (1990). Kruh, G.D., et al., *Science* 234(4783):1545-1548 (1986). Bianchi, C., et al., *FEBS Lett.* 527 (1-3), 216-222 (2002) ( ): ( ).