Anti-ABL1 Antibody [PSH04-08]

HA722089

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 123 kDa
Clone number:	PSH04-08

Description: Tyrosine-protein kinase ABL1 also known as ABL1 is a protein that, in humans, is encoded by the ABL1 gene (previous symbol ABL) located on chromosome 9. c-Abl is sometimes used to refer to the version of the gene found within the mammalian genome, while v-Abl refers to the viral gene, which was initially isolated from the Abelson murine leukemia virus. The ABL1 proto-oncogene encodes a cytoplasmic and nuclear protein tyrosine kinase that has been implicated in processes of cell differentiation, cell division, cell adhesion, and stress response such as DNA repair. Activity of ABL1 protein is negatively regulated by its SH3 domain, and deletion of the SH3 domain turns ABL1 into an oncogene. The t(9;22) translocation results in the head-to-tail fusion of the BCR and ABL1 genes, leading to a fusion gene present in many cases of chronic myelogenous leukemia. The DNA-binding activity of the ubiquitously expressed ABL1 tyrosine kinase is regulated by CDC2-mediated phosphorylation, suggesting a cell cycle function for ABL1. The ABL1 gene is expressed as either a 6- or a 7-kb mRNA transcript, with alternatively spliced first exons spliced to the common exons 2–11.

Immunogen: Recombinant protein within human ABL1 aa 601-1,000 / 1,130.

Positive control: K-562 cell lysate, HeLa cell lysate, Daudi cell lysate, THP-1 cell lysate, K-562, human breast cancer tissue, human lung cancer tissue, mouse kidney tissue, HeLa.

Subcellular location: Cytoplasm, cytoskeleton, Nucleus, Mitochondrion; Nucleus membrane.

Database links: SwissProt: P00519 Human | P00520 Mouse

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:100
IHC-P	1:200
FC	1:1,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

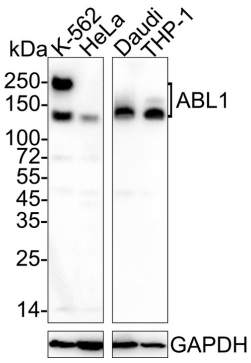

Fig1: Western blot analysis of ABL1 on different lysates with Rabbit anti-ABL1 antibody (HA722089) at 1/1,000 dilution.

Lane 1: K-562 cell lysate
Lane 2: HeLa cell lysate
Lane 3: Daudi cell lysate
Lane 4: THP-1 cell lysate

Lysates/proteins at 30 µg/Lane.

Predicted band size: 123 kDa
Observed band size: 130/250 kDa

Exposure time: 3 minutes;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722089) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

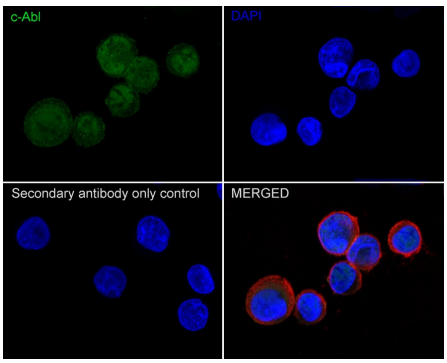

Fig2: Immunocytochemistry analysis of K-562 cells labeling ABL1 with Rabbit anti-ABL1 antibody (HA722089) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-ABL1 antibody (HA722089) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

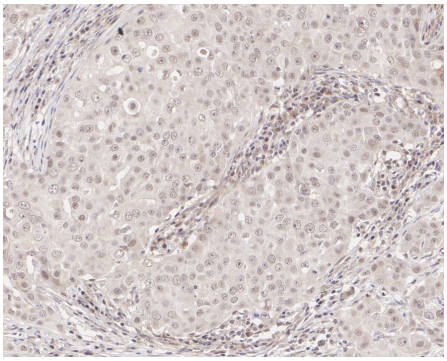

Fig3: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-ABL1 antibody (HA722089) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722089) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

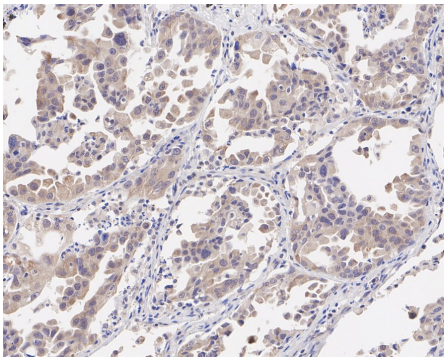

Fig4: Immunohistochemical analysis of paraffin-embedded human lung cancer tissue with Rabbit anti-ABL1 antibody (HA722089) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722089) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

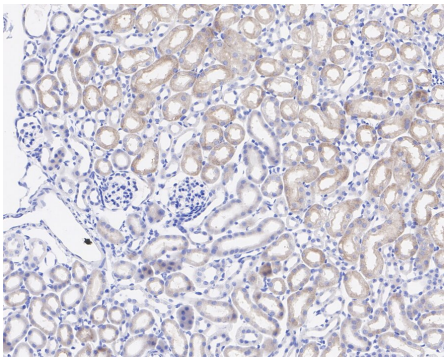

Fig5: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-ABL1 antibody (HA722089) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722089) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

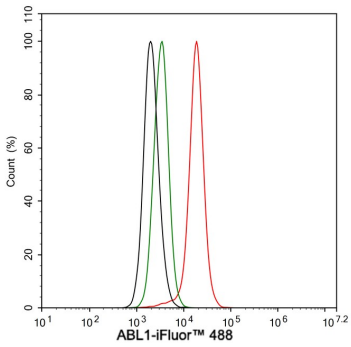

Fig6: Flow cytometric analysis of HeLa cells labeling ABL1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA722089, 1μg/mL) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Jain S et al. BCR-ABL1-like B-Acute Lymphoblastic Leukemia/Lymphoma: A Comprehensive Review. Arch Pathol Lab Med. 2020 Feb
2. Braun TP et al. Response and Resistance to BCR-ABL1-Targeted Therapies. Cancer Cell. 2020 Apr