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Product datasheet

Anti-ABL1 (phospho Y412) antibody ab4717

8 References 1 Image

Overview

Product name	Anti-ABL1 (phospho Y412) antibody
Description	Rabbit polyclonal to ABL1 (phospho Y412)
Host species	Rabbit
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse
Immunogen	Synthetic peptide corresponding to Human ABL1 (phospho Y412).
Positive control	Fibroblasts transfected with oncogenic ΔSH3-Abl.
General notes	c-Abl is a 140-150 kDa non-receptor protein tyrosine kinase whose precise functions are not known, but roles for Abl in growth factor and integrin signaling, cell cycle regulation, cytoskeletal reorganization, neurogenesis, and responses to DNA damage and oxidative stress have been suggested. c-Abl kinase activity is increased in vivo by diverse physiological stimuli including ionizing radiation, entry into S phase, integrin activation, and platelet-derived growth factor (PDGF) stimulation. c-Abl contains various protein binding domains that appear to enable it to regulate the functions of many proteins by forming complexes, most notably three isoforms of the oncogenic protein Bcr/Abl. c-Abl becomes fully activated by sequential phosphorylation of tyrosines 412 and 245. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.30

	Preservative: 0.05% Sodium azide Constituents: PBS, 0.1% BSA PBS is without Mg2+ and Ca2+ and BSA is IgG and protease free.
Purity	Immunogen affinity purified
Purification notes	Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively pre-adsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated c-Abl. The final product is generated by affinity chromatography using a c-Abl derived peptide that is phosphorylated at tyrosine 245.
Primary antibody notes	c-Abl is a 140-150 kDa non-receptor protein tyrosine kinase whose precise functions are not known, but roles for Abl in growth factor and integrin signaling, cell cycle regulation, cytoskeletal reorganization, neurogenesis, and responses to DNA damage and oxidative stress have been suggested. c-Abl kinase activity is increased in vivo by diverse physiological stimuli including ionizing radiation, entry into S phase, integrin activation, and platelet-derived growth factor (PDGF) stimulation. c-Abl contains various protein binding domains that appear to enable it to regulate the functions of many proteins by forming complexes, most notably three isoforms of the oncogenic protein Bcr/Abl. c-Abl becomes fully activated by sequential phosphorylation of tyrosines 412 and 245.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab4717 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

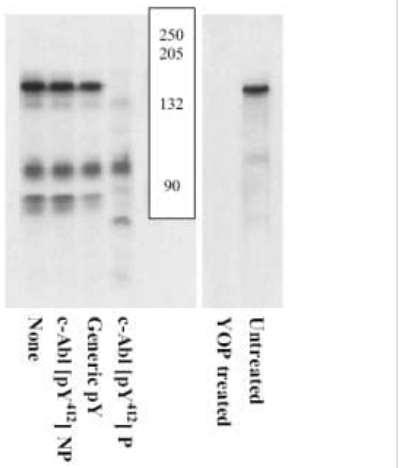
Application	Abreviews	Notes
WB		Use a concentration of 0.1 - 1 µg/ml. Detects a band of approximately 140 kDa.

Target

Function	Protein kinase that regulates key processes linked to cell growth and survival. Regulates cytoskeleton remodeling during cell differentiation, cell division and cell adhesion. Localizes to dynamic actin structures, and phosphorylates CRK and CRKL, DOK1, and other proteins controlling cytoskeleton dynamics. Regulates DNA repair potentially by activating the proapoptotic pathway when the DNA damage is too severe to be repaired. Phosphorylates PSMA7 that leads to an inhibition of proteasomal activity and cell cycle transition blocks.
Tissue specificity	Widely expressed.
Involvement in disease	Note=A chromosomal aberration involving ABL1 is a cause of chronic myeloid leukemia. Translocation t(9;22)(q34;q11) with BCR. The translocation produces a BCR-ABL found also in acute myeloid leukemia (AML) and acute lymphoblastic leukemia (ALL).
Sequence similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. ABL subfamily. Contains 1 protein kinase domain. Contains 1 SH2 domain.

	Contains 1 SH3 domain.
Post-translational modifications	Phosphorylated by PRKDC (By similarity). DNA damage-induced activation of c-Abl requires the function of ATM and Ser-446 phosphorylation (By similarity). Phosphorylation on Thr-735 is required for binding 14-3-3 proteins for cytoplasmic translocation. Isoform IB is myristoylated on Gly-2.
Cellular localization	Cytoplasm > cytoskeleton. Nucleus. Sequestered into the cytoplasm through interaction with 14-3-3 proteins and Nucleus membrane. The myristoylated c-ABL protein is reported to be nuclear.

Images



Western blot - Anti-ABL1 (phospho Y412) antibody (ab4717)

Peptide Competition:
Fibroblasts transfected with oncogenic ΔSH3-Abl were resolved by SDS-PAGE on a 10% polyacrylamide gel and transferred to PVDF. Membranes were blocked with a 5% BSA-TBST buffer overnight at 4°C, then were incubated with 0.50 µg/mL phospho c-Abl (Tyr 412) antibody for two hours at room temperature in a 3% BSA-TBST buffer, following prior incubation with: no peptide (1), the non-phosphopeptide corresponding to the immunogen (2), a generic phosphotyrosine containing peptide (3), or, the phosphopeptide immunogen (4). After washing, membranes were incubated with goat F(ab')2 anti-rabbit IgG alkaline phosphatase and signals were detected using the Tropix WesternStar method. The data show that only the peptide corresponding to phospho c-Abl (Tyr 412) blocks the antibody signal, thereby demonstrating the specificity of the antibody.

Peptide Competition: Fibroblasts transfected with oncogenic ? SH3-Abl were resolved by SDS-PAGE on a 10%

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