


Product datasheet

Anti-ALK (phospho Y1507) antibody ab73996

[6 References](#) [2 Images](#)

Overview

Product name	Anti-ALK (phospho Y1507) antibody
Description	Rabbit polyclonal to ALK (phospho Y1507)
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P
Species reactivity	Reacts with: Human, African green monkey Predicted to work with: Mouse 
Immunogen	Synthetic peptide corresponding to Human ALK (phospho Y1507). Run BLAST with ExpASY Run BLAST with NCBI
Positive control	human brain tissue, extracts from COS cells, treated with anisomycin (25ug/ml, 30mins)
General notes	<p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 50% Glycerol (glycerin, glycerine), 0.87% Sodium chloride, PBS Without Mg ²⁺ and Ca ²⁺
Purity	Immunogen affinity purified
Purification notes	The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab73996 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		1/500 - 1/1000. Detects a band of approximately 176 kDa (predicted molecular weight: 176 kDa).
IHC-P		1/50 - 1/100.

Target

Function

Neuronal receptor tyrosine kinase that is essentially and transiently expressed in specific regions of the central and peripheral nervous systems and plays an important role in the genesis and differentiation of the nervous system. Transduces signals from ligands at the cell surface, through specific activation of the mitogen-activated protein kinase (MAPK) pathway. Phosphorylates almost exclusively at the first tyrosine of the Y-x-x-x-Y-Y motif. Following activation by ligand, ALK induces tyrosine phosphorylation of CBL, FRS2, IRS1 and SHC1, as well as of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1. Acts as a receptor for ligands pleiotrophin (PTN), a secreted growth factor, and midkine (MDK), a PTN-related factor, thus participating in PTN and MDK signal transduction. PTN-binding induces MAPK pathway activation, which is important for the anti-apoptotic signaling of PTN and regulation of cell proliferation. MDK-binding induces phosphorylation of the ALK target insulin receptor substrate (IRS1), activates mitogen-activated protein kinases (MAPKs) and PI3-kinase, resulting also in cell proliferation induction. Drives NF-kappa-B activation, probably through IRS1 and the activation of the AKT serine/threonine kinase. Recruitment of IRS1 to activated ALK and the activation of NF-kappa-B are essential for the autocrine growth and survival signaling of MDK.

Tissue specificity

Expressed in brain and CNS. Also expressed in the small intestine and testis, but not in normal lymphoid cells.

Involvement in disease

A chromosomal aberration involving ALK is found in a form of non-Hodgkin lymphoma. Translocation t(2;5)(p23;q35) with NPM1. The resulting chimeric NPM1-ALK protein homodimerize and the kinase becomes constitutively activated. The constitutively active fusion proteins are responsible for 5-10% of non-Hodgkin lymphomas.

A chromosomal aberration involving ALK is associated with inflammatory myofibroblastic tumors (IMTs). Translocation t(2;11)(p23;p15) with CARS; translocation t(2;4)(p23;q21) with SEC31A.

A chromosomal aberration involving ALK is associated with anaplastic large-cell lymphoma (ALCL). Translocation t(2;17)(p23;q25) with ALO17.

Neuroblastoma 3

The ALK signaling pathway plays an important role in glioblastoma, the most common malignant brain tumor of adults and one of the most lethal cancers. It regulates both glioblastoma migration and growth.

A chromosomal aberration involving ALK is found in one subject with colorectal cancer. Translocation t(2;2)(p23.1;p23.3). A 5 million base pair tandem duplication generates an in-frame WDCP-ALK gene fusion.

Sequence similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.
Contains 1 LDL-receptor class A domain.
Contains 2 MAM domains.
Contains 1 protein kinase domain.

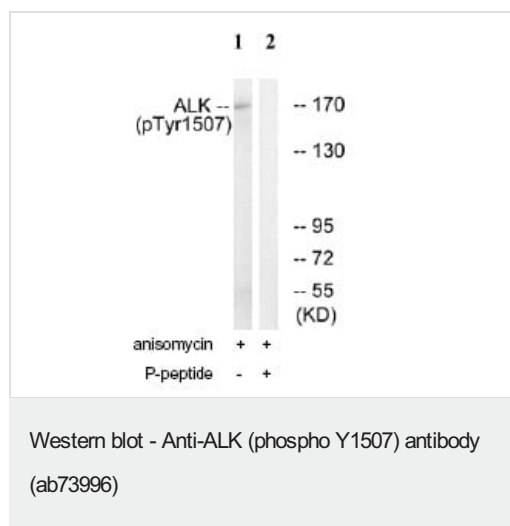
Post-translational modifications

Phosphorylated at tyrosine residues by autocatalysis, which activates kinase activity. In cells not stimulated by a ligand, receptor protein tyrosine phosphatase beta and zeta complex (PTPRB/PTPRZ1) dephosphorylates ALK at the sites in ALK that are undergoing autophosphorylation through autoactivation. Phosphorylation at Tyr-1507 is critical for SHC1 association.
N-glycosylated.

Cellular localization

Cell membrane. Membrane attachment was crucial for promotion of neuron-like differentiation and cell proliferation arrest through specific activation of the MAP kinase pathway.

Images



All lanes : Anti-ALK (phospho Y1507) antibody (ab73996) at 1/500 dilution

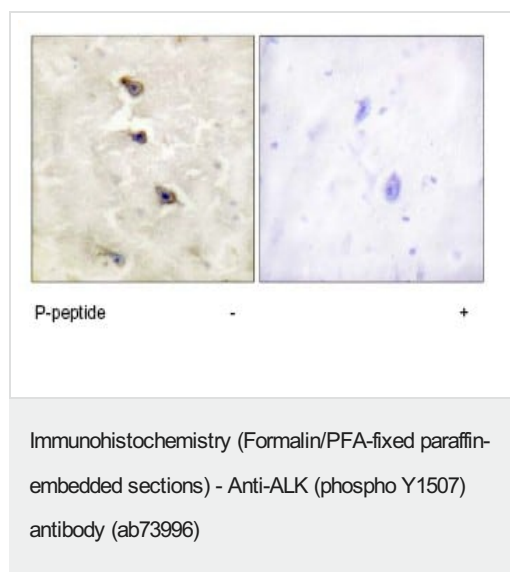
Lane 1 : extracts from COS cells, treated with anisomycin (25ug/ml, 30mins)

Lane 2 : extracts from COS cells, treated with anisomycin (25ug/ml, 30mins) with immunising phosphopeptide at 10 µg

Lysates/proteins at 30 µg per lane.

Predicted band size: 176 kDa

Observed band size: 176 kDa



Immunohistochemistry analysis of paraffin-embedded human brain tissue using 1/50 ab73996. Left: untreated sample. Right: sample treated with immunising peptide.

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