


Product datasheet

Anti-ALK antibody [SP8] ab16670

RabMAb

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

Overview

Product name	Anti-ALK antibody [SP8]
Description	Rabbit monoclonal [SP8] to ALK
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat 
Immunogen	Recombinant fragment within ALK aa 1350-1500. The exact sequence is proprietary.
Positive control	Anaplastic lymphoma
General notes	<p>This antibody recognises a human p80 protein, identified as a hybrid of the anaplastic lymphoma kinase (ALK) gene and the nucleophosmin (NPM) gene resulting from the t(2;5)(p23;q35) translocation found in a third of large cell lymphomas. This rabbit monoclonal antibody can be used to detect p80 in these lymphomas and may also be used to detect a recently described subtype of large B cell lymphoma, which expresses the full-length ALK protein.</p> <p>This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.</p> <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 repeated freeze / thaw cycles.
Storage buffer	pH: 7.50 Preservative: 0.1% Sodium azide

	Constituents: Tissue culture supernatant, Tris buffered saline, 1% BSA
Purity	Tissue culture supernatant
Primary antibody notes	This antibody recognises a human p80 protein, identified as a hybrid of the anaplastic lymphoma kinase (ALK) gene and the nucleophosmin (NPM) gene resulting from the t(2;5)(p23;q35) translocation found in a third of large cell lymphomas. This rabbit polyclonal antibody can be used to detect p80 in these lymphomas and may also be used to detect a recently described subtype of large B cell lymphoma, which expresses the full-length ALK protein.
Clonality	Monoclonal
Clone number	SP8
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab16670 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 at an assay dependent concentration. Predicted molecular weight: 176 kDa. PubMed: 21847362
IHC-P		1/100. Antigen retrieval: Boil tissue section in 10mM citrate buffer, pH 6.0 for 10 min followed by cooling at room temperature for 20 min.

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

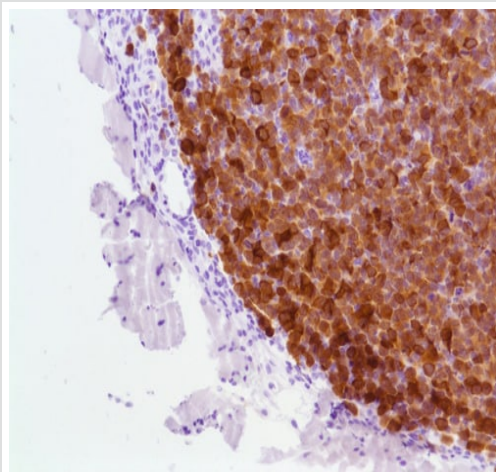
Phosphorylated at tyrosine residues by autocatalysis, which activates kinase activity. In cells not stimulated by a ligand, receptor protein tyrosine phosphatase beta and zeta complex (PTPRB/PTPRZ1) dephosphorylates ALK at the sites in ALK that are undergoing autophosphorylation through autoactivation.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

N-glycosylated.

Cellular localization

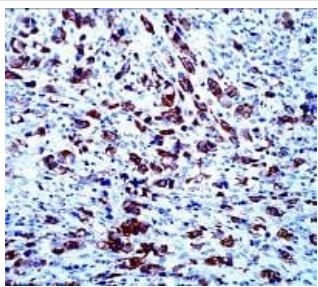
Cell membrane. Membrane attachment was crucial for promotion of neuron-like differentiation and cell proliferation arrest through specific activation of the MAP kinase pathway.

Images



Immunohistochemical analysis of Human anaplastic lymphoma tissue labelling ALK with ab16670.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ALK antibody [SP8] (ab16670)



Immunohistochemical analysis of paraffin-embedded Human anaplastic lymphoma tissue labelling ALK with ab16670 at 1/100.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ALK antibody [SP8] (ab16670)

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