

Anti-ALK antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22467a

Specification

Anti-ALK antibody - Product Information

Application	WB,E
Primary Accession	O9UM73
Reactivity	Human
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit Ig
Calculated MW	176442

Anti-ALK antibody - Additional Information

Gene ID 238

Other Names

ALK tyrosine kinase receptor, 2.7.10.1, Anaplastic lymphoma kinase, CD246, ALK
{ECO:0000303|PubMed:9174053, ECO:0000312|HGNC:HGNC:427}

Target/Specificity

This antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between amino acids from human.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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

Anti-ALK antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-ALK antibody - Protein Information

Name ALK {ECO:0000303|PubMed:9174053, ECO:0000312|HGNC:HGNC:427}

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 (PubMed:[11121404](#), PubMed:[11387242](#), PubMed:[16317043](#), PubMed:[17274988](#), PubMed:[30061385](#), PubMed:[34646012](#),

PubMed:[34819673](#)). Also acts as a key thinness protein involved in the resistance to weight gain: in hypothalamic neurons, controls energy expenditure acting as a negative regulator of white adipose tissue lipolysis and sympathetic tone to fine-tune energy homeostasis (By similarity). Following activation by ALKAL2 ligand at the cell surface, transduces an extracellular signal into an intracellular response (PubMed:[30061385](#), PubMed:[33411331](#), PubMed:[34646012](#), PubMed:[34819673](#)). In contrast, ALKAL1 is not a potent physiological ligand for ALK (PubMed:[34646012](#)). Ligand-binding to the extracellular domain induces tyrosine kinase activation, leading to activation of the mitogen-activated protein kinase (MAPK) pathway (PubMed:[34819673](#)). Phosphorylates almost exclusively at the first tyrosine of the Y-x-x-x-Y-Y motif (PubMed:[15226403](#), PubMed:[16878150](#)). Induces tyrosine phosphorylation of CBL, FRS2, IRS1 and SHC1, as well as of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1 (PubMed:[15226403](#), PubMed:[16878150](#)). ALK activation may also be regulated by pleiotrophin (PTN) and midkine (MDK) (PubMed:[11278720](#), PubMed:[11809760](#), PubMed:[12107166](#), PubMed:[12122009](#)). PTN-binding induces MAPK pathway activation, which is important for the anti-apoptotic signaling of PTN and regulation of cell proliferation (PubMed:[11278720](#), PubMed:[11809760](#), PubMed:[12107166](#)). 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 (PubMed:[12122009](#)). Drives NF-kappa-B activation, probably through IRS1 and the activation of the AKT serine/threonine kinase (PubMed:[15226403](#), PubMed:[16878150](#)). Recruitment of IRS1 to activated ALK and the activation of NF-kappa-B are essential for the autocrine growth and survival signaling of MDK (PubMed:[15226403](#), PubMed:[16878150](#)).

Cellular Location

Cell membrane; Single-pass type I membrane protein Note=Membrane attachment is essential for promotion of neuron-like differentiation and cell proliferation arrest through specific activation of the MAP kinase pathway.

Tissue Location

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

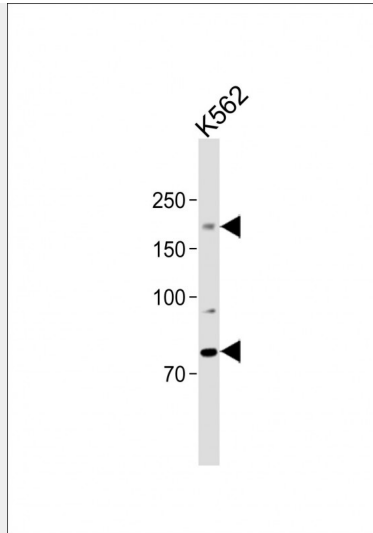
Anti-ALK antibody - Protocols

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

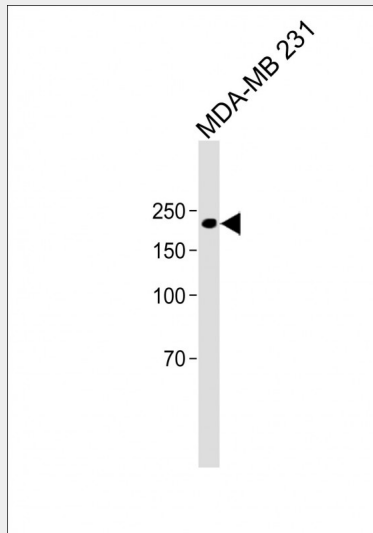
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-ALK antibody - Images





All lanes: Anti-Anti-ALK antibody at 1:1000 dilution + K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 220, 80 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes: Anti-Anti-ALK antibody at 1:1000 dilution + MDA-MB 231 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 220 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Anti-ALK antibody - Background

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 (PubMed:11121404, PubMed:11387242, PubMed:16317043, PubMed:17274988, PubMed:30061385, PubMed:34646012, PubMed:34819673). Also acts as a key thinness protein involved in the resistance to weight gain: in hypothalamic neurons, controls energy expenditure acting as a negative regulator of white adipose tissue lipolysis and sympathetic tone to fine-tune energy homeostasis (By similarity). Following activation by ALKAL2 ligand at the cell surface, transduces an extracellular signal into an intracellular response (PubMed:30061385, PubMed:33411331, PubMed:34646012, PubMed:34819673). In contrast, ALKAL1 is not a potent physiological ligand for ALK (PubMed:34646012). Ligand-binding to the extracellular domain induces tyrosine kinase activation, leading to activation of the mitogen-activated protein kinase

(MAPK) pathway (PubMed:34819673). Phosphorylates almost exclusively at the first tyrosine of the Y-x-x-x-Y-Y motif (PubMed:15226403, PubMed:16878150). Induces tyrosine phosphorylation of CBL, FRS2, IRS1 and SHC1, as well as of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1 (PubMed:15226403, PubMed:16878150). ALK activation may also be regulated by pleiotrophin (PTN) and midkine (MDK) (PubMed:11278720, PubMed:11809760, PubMed:12107166, PubMed:12122009). PTN-binding induces MAPK pathway activation, which is important for the anti-apoptotic signaling of PTN and regulation of cell proliferation (PubMed:11278720, PubMed:11809760, PubMed:12107166). 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 (PubMed:12122009). Drives NF-kappa-B activation, probably through IRS1 and the activation of the AKT serine/threonine kinase (PubMed:15226403, PubMed:16878150). Recruitment of IRS1 to activated ALK and the activation of NF-kappa-B are essential for the autocrine growth and survival signaling of MDK (PubMed:15226403, PubMed:16878150).

Anti-ALK antibody - References

- Morris S.W., et al. *Oncogene* 14:2175-2188(1997).
Morris S.W., et al. *Oncogene* 15:2883-2883(1997).
Iwahara T., et al. *Oncogene* 14:439-449(1997).
Totoki Y., et al. Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
Hillier L.W., et al. *Nature* 434:724-731(2005).