

Anti-ALK Antibody
Catalog # ABO11049

Specification

Anti-ALK Antibody - Product Information

Application	WB, IHC
Primary Accession	O9UM73
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for ALK tyrosine kinase receptor(ALK) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-ALK Antibody - Additional Information

Gene ID 238

Other Names

ALK tyrosine kinase receptor, 2.7.10.1, Anaplastic lymphoma kinase, CD246, ALK

Calculated MW

176442 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

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

Tissue Specificity

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

Protein Name

ALK tyrosine kinase receptor

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human ALK(1571-1589aa

LFRLRHFP CGNVNYGYQQQ), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.

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

target="_blank">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

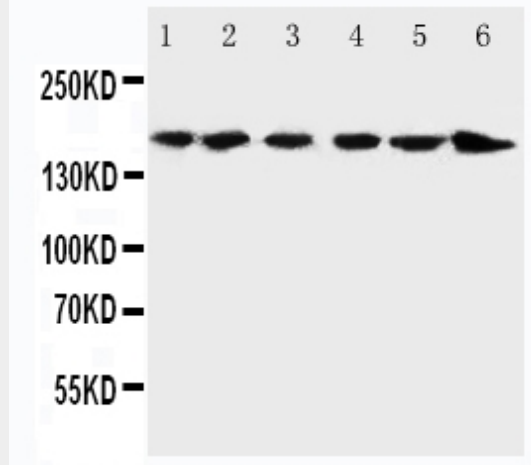
Anti-ALK Antibody - Protocols

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

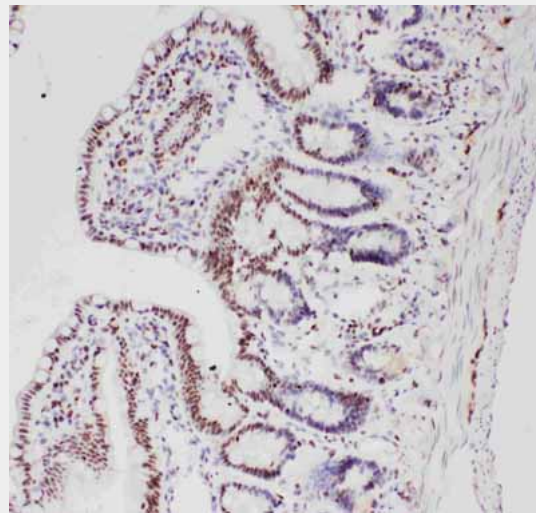
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-ALK Antibody - Images

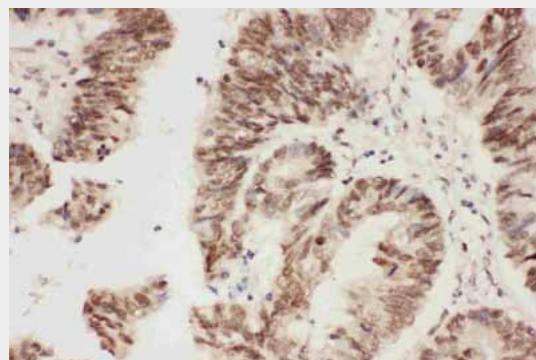




Anti-ALK antibody, ABO11049, Western blotting
 Lane 1: Rat Brain Tissue Lysate
 Lane 2: Rat Testis Tissue Lysate
 Lane 3: U87 Cell Lysate
 Lane 4: HELA Cell Lysate
 Lane 5: COLO320 Cell Lysate
 Lane 6: JURKAT Cell Lysate



Anti-ALK antibody, ABO11049, IHC(P)IHC(P): Rat Intestine Tissue



Anti-ALK antibody, ABO11049, IHC(P)IHC(P): Human Rectal Cancer Tissue

Anti-ALK Antibody - Background

ALK (Anaplastic lymphoma kinase) also known as ALK tyrosine kinase receptor or CD246 (cluster of differentiation 246) is an enzyme that in humans is encoded by the ALK gene. The ALK gene is mapped on 2p23.2-p23.1. Expressed in the small intestine, testis, and brain but not in normal lymphoid cells, ALK shows greatest sequence similarity to the insulin receptor subfamily of kinases.

ALK plays an important role in the development of the brain and exerts its effects on specific neurons in the nervous system. The deduced amino acid sequences reveal that ALK is a novel receptor tyrosine kinase having a putative transmembrane domain and an extracellular domain. In *Drosophila*, localized Jeb activates Alk and the downstream Ras/mitogen-activated protein kinase cascade to specify a select group of visceral muscle precursors as muscle-patterning pioneers. Functional RNA interference screening on a set of these transcriptional targets revealed that CEBPB and BCL2A1 were absolutely necessary to induce cell transformation and/or to sustain growth and survival of ALK-positive ALCL cells. One particularly informative case presented a high-level gene amplification that was strictly limited to ALK, indicating that this gene may contribute on its own to neuroblastoma development. Mutated ALK proteins were overexpressed, hyperphosphorylated, and showed constitutive kinase activity. The knockdown of ALK expression in ALK-mutated cells, but also in cell lines overexpressing a wildtype ALK, led to a marked decrease of cell proliferation.