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Mouse Alk Antibody (P1517)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21260a

Product Information

Application	WB, E
Primary Accession	P97793
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB50288
Calculated MW	174948

Additional Information

Gene ID	11682
Other Names	ALK tyrosine kinase receptor, Anaplastic lymphoma kinase, CD246, Alk
Target/Specificity	This Mouse Alk antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 1517-1550 amino acids Mouse Alk.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	Mouse Alk Antibody (P1517) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Alk {ECO:0000303|PubMed:9053841, ECO:0000312|MGI:MGI:103305}
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:15226403, PubMed:16458083, PubMed:16878150, PubMed:19200234, PubMed:30497772). 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 (PubMed:32442405). Following activation by ALKAL2 ligand at the cell surface, transduces an extracellular signal into an intracellular response. In contrast, ALKAL1 is not a potent physiological ligand for ALK. Ligand-binding to the extracellular domain induces tyrosine kinase activation, leading to 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. Induces tyrosine phosphorylation of CBL, FRS2, IRS1 and SHC1, as well as of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1. ALK activation may also be regulated by pleiotrophin (PTN) and midkine (MDK). 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 (By similarity). May function as regulator of gastric epithelial differentiation (PubMed:33479180).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:Q9UM73}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q9UM73} Note=Membrane attachment is essential for promotion of neuron-like differentiation and cell proliferation arrest through specific activation of the MAP kinase pathway. {ECO:0000250|UniProtKB:Q9UM73}
Tissue Location	Mainly expressed in central nervous system (CNS) and other parts of the brain such as the paraventricular nucleus (PVN) of the hypothalamus. Expression is also found in peripheral nervous systems, eye, nasal epithelium, olfactory nerve, tongue, skin, tissue surrounding the esophagus, stomach, midgut, as well as testis and ovary.

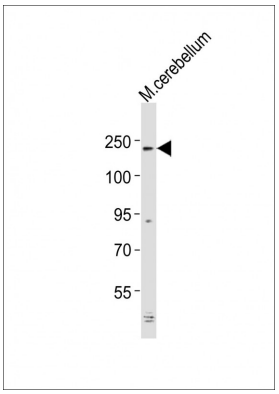
Background

Neuronal orphan 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.

References

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Motegi A.,et al.J. Cell Sci. 117:3319-3329(2004).
Vernersson E.,et al.Gene Expr. Patterns 6:448-461(2006).
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Images



Anti-Alk Antibody (P1517)at 1:2000 dilution + mouse cerebellum lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 175 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.