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ALK Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP11211a

Specification

ALK Antibody (N-term) Blocking peptide - Product Information

Primary Accession Q9UM73

ALK Antibody (N-term) Blocking peptide - Additional Information

Gene ID 238

Other Names
ALK tyrosine kinase receptor, Anaplastic lymphoma kinase, CD246, ALK

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ALK Antibody (N-term) Blocking peptide - Protein Information

Name ALK (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. Transduces signals from ligands at the cell surface, through specific activation of the mitogen- activated protein kinase (MAPK) pathway. Phosphorylates almost exclusively

ALK Antibody (N-term) Blocking peptide - Background

The 2;5 chromosomal translocation is frequently associatedwith anaplastic large cell lymphomas (ALCLs). The translocationcreates a fusion gene consisting of the ALK (anaplastic lymphomakinase) gene and the nucleophosmin (NPM) gene: the 3' half of ALK,derived from chromosome 2, is fused to the 5' portion of NPM fromchromosome 5. A recent study shows that the product of the NPM-ALKfusion gene is oncogenic. The deduced amino acid sequences revealthat ALK is a novel receptor protein-tyrosine kinase having aputative transmembrane domain and an extracellular domain. Thesesequences are absent in the product of the transforming NPM-ALKgene. ALK shows the greatest sequence similarity to LTK (leukocytetyrosine kinase). ALK plays an important role in the development ofthe brain and exerts its effects on specific neurons in the nervoussystem.

ALK Antibody (N-term) Blocking peptide - References

Ardini, E., et al. Cancer Lett. 299(2):81-94(2010)Ohira, M., et al. Cancer Sci. 101(11):2295-2301(2010)Merkel, O., et al. Proc. Natl. Acad. Sci. U.S.A. 107(37):16228-16233(2010)De Brouwer, S., et al. Clin. Cancer Res. 16(17):4353-4362(2010)Bossi, R.T., et al. Biochemistry 49(32):6813-6825(2010)

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. Thinness gene 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).

Cellular Location
Cell membrane; Single-pass type I membrane protein Note=Membrane attachment was crucial 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

ALK Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides