

**ALK Antibody**  
**Rabbit mAb**  
**Catalog # AP92083**

## Specification

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### ALK Antibody - Product Information

Application	IHC, ICC
Primary Accession	<a href="#">O9UM73</a>
Reactivity	Rat
Clonality	Monoclonal
<b>Other Names</b>	
ALK tyrosine kinase receptor; Nucleophosmin; NPM1; ALK; NPM-ALK	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	176442 Da

### ALK Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human ALK
Description	Involved in diverse cellular processes such as ribosome biogenesis, centrosome duplication, protein chaperoning, histone assembly, cell proliferation, and regulation of tumor suppressors p53/TP53 and ARF. Binds ribosome presumably to drive ribosome nuclear export. Associated with nucleolar ribonucleoprotein structures and bind single-stranded nucleic acids.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

### 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:<a href="http://www.uniprot.org/citations/11121404" target="\_blank">11121404</a>, PubMed:<a href="http://www.uniprot.org/citations/11387242" target="\_blank">11387242</a>, PubMed:<a href="http://www.uniprot.org/citations/16317043" target="\_blank">16317043</a>, PubMed:<a href="http://www.uniprot.org/citations/17274988" target="\_blank">17274988</a>, PubMed:<a

<http://www.uniprot.org/citations/30061385> target="\_blank">30061385</a>, PubMed:<a href="http://www.uniprot.org/citations/34646012" target="\_blank">34646012</a>, PubMed:<a href="http://www.uniprot.org/citations/34819673" target="\_blank">34819673</a>). 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:<a href="http://www.uniprot.org/citations/30061385" target="\_blank">30061385</a>, PubMed:<a href="http://www.uniprot.org/citations/33411331" target="\_blank">33411331</a>, PubMed:<a href="http://www.uniprot.org/citations/34646012" target="\_blank">34646012</a>, PubMed:<a href="http://www.uniprot.org/citations/34819673" target="\_blank">34819673</a>). In contrast, ALKAL1 is not a potent physiological ligand for ALK (PubMed:<a href="http://www.uniprot.org/citations/34646012" target="\_blank">34646012</a>). Ligand-binding to the extracellular domain induces tyrosine kinase activation, leading to activation of the mitogen-activated protein kinase (MAPK) pathway (PubMed:<a href="http://www.uniprot.org/citations/34819673" target="\_blank">34819673</a>). Phosphorylates almost exclusively at the first tyrosine of the Y-x-x-x-Y-Y motif (PubMed:<a href="http://www.uniprot.org/citations/15226403" target="\_blank">15226403</a>, PubMed:<a href="http://www.uniprot.org/citations/16878150" target="\_blank">16878150</a>). Induces tyrosine phosphorylation of CBL, FRS2, IRS1 and SHC1, as well as of the MAP kinases MAPK1/ERK2 and MAPK3/ERK1 (PubMed:<a href="http://www.uniprot.org/citations/15226403" target="\_blank">15226403</a>, PubMed:<a href="http://www.uniprot.org/citations/16878150" target="\_blank">16878150</a>). ALK activation may also be regulated by pleiotrophin (PTN) and midkine (MDK) (PubMed:<a href="http://www.uniprot.org/citations/11278720" target="\_blank">11278720</a>, PubMed:<a href="http://www.uniprot.org/citations/11809760" target="\_blank">11809760</a>, PubMed:<a href="http://www.uniprot.org/citations/12107166" target="\_blank">12107166</a>, PubMed:<a href="http://www.uniprot.org/citations/12122009" target="\_blank">12122009</a>). PTN-binding induces MAPK pathway activation, which is important for the anti-apoptotic signaling of PTN and regulation of cell proliferation (PubMed:<a href="http://www.uniprot.org/citations/11278720" target="\_blank">11278720</a>, PubMed:<a href="http://www.uniprot.org/citations/11809760" target="\_blank">11809760</a>, PubMed:<a href="http://www.uniprot.org/citations/12107166" target="\_blank">12107166</a>). 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:<a href="http://www.uniprot.org/citations/12122009" target="\_blank">12122009</a>). Drives NF-kappa-B activation, probably through IRS1 and the activation of the AKT serine/threonine kinase (PubMed:<a href="http://www.uniprot.org/citations/15226403" target="\_blank">15226403</a>, PubMed:<a href="http://www.uniprot.org/citations/16878150" target="\_blank">16878150</a>). 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:<a href="http://www.uniprot.org/citations/15226403" target="\_blank">15226403</a>, PubMed:<a href="http://www.uniprot.org/citations/16878150" target="\_blank">16878150</a>).

### 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

### 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](#)

**ALK Antibody - Images**