

## Product datasheet for MC224763

### Alk (NM\_007439) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Alk (NM\_007439) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Alk  
**Synonyms:** CD246; Tcrz  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Fully Sequenced ORF:** >MC224763 representing NM\_007439  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGAGCTGCTGGGTTCTGTGGCTGCTGCCTCCACTGCTTTTGGCAGCAGCCTCGTACTCCGGAGCTG  
 CAACCGATCAGCGCGGGTTCCCCAGCCTCAGGGCTCCTCTGCAGCCCCGGGAGCCGCTCAGTTATTC  
 GCGCCTGCAGAGGAAGAGTCTGGCAGTGGACTTCGTTGTACCCTCGCTTCCGCGTCTATGCCCGAGAC  
 CTGCTGCTACCGCAGCCACGGTCCCCTCGGAGCCGAGGCTGGCGGGCTGGAGGCGGGGATCACTGG  
 CCCTGGATTGTGAGCCTCTGCTCAGGCTGCTGGGGCCACTGCCTGGAATCTCCTGGCAGATGGAGCCAG  
 TTCTCCTAGTCCCGAGGGGGTCCGACGCTGTCCAGGGTCTGAAGGGAGGCTCGGTGCGCAAGCTCAGG  
 CGTGCCAAACAGCTGGTCTGGAGCTGGGCGAGGAGACGATTCTTGAAGGCTGTATTGGTCCCCCAGAGG  
 AGGTAGCGGCTGTGGGATACTCCAGTTCAACCTCAGCGAGCTGTTTCCAGCTGGTGGATTCTCCACGGCGA  
 AGGGAGGCTGAGGATCCGCCTGATGCCTGAGAAGAAGGCATCGGAAGTGGGACGGGAGGGAAGGCTATCC  
 AGTGCGATCCGAGCCTCCAGCCCCGCTTCTCTCCAGATCTTCGGGACGGGACACAGCTCCATGGAGT  
 CACCCTCAGAAACGCCTTCTCCTCCTGGTACCTCATGTGGAATCTGACCTGGACGATGAAAAGACTCCTT  
 CCCTTTCCCTTCCACCCGAGTCGATATGGTCTGGAGTGCAGCTTTGACTTCCCCTGTGAGCTGGAATAT  
 TCTCCTCCCCTGCACAACCACGGGAATCAGAGCTGGTCTGGCCCATGTGCCCTCCGAGGAGCCCTCGA  
 GGATGAACTTGCTGGATGGGCCAGAGGCAGAGCATTCTCAAGAGATGCCAGAGGCTCCTCCTCCTCCT  
 GAACACCTCTGCAGATCCAAGCATACCATCTGAGCCATGGATGAGGAGCAGTAGTGATCACTGCACA  
 CTGGCTGTCTCCGTGCACAGACATCTACAGCCTTCGGGGAGATATGTTGCCAGCTCCTACCCACAAACG  
 AAGCTGGAAGAGAGATTCTTTGGTGCCACCCAGGGAAGCATGGCTGGACAGTCTGCAGGGGAGAGT  
 CGGGCGCCAGCAAAACCATTTTCGAGTGGCTCTGGAATACATCTCCAGTGGCAACCGAGCTTGTGCGCG  
 GTGGATTTCTTTGCCCTGAAGAACTGCAGTGAAGGACATCCCCAGGCTCCAAGATGGCATTGCAGAGTT  
 CCTTCACTTGTGGAATGGACCGTCTCCAGCTCGGGCAAGCCTGTGATTTCCACCAGGACTGTGCCCA  
 AGGAGAAGATGAGGGCCAGCTGTGCAGTAACTTCTGCTGGATTTACTGTAACTTGAAAATGGCTTC



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TGTGGCTGGACCCAAAGTCCACTCTACCCCATATGCCCCGGTGGCAAGTGAGGACCCTAAGAGATGCC  
 ATTCCCAGGGCCACCAAGGCCGTGCCCTGTTGCTCAGCACCCTGACATCCTCGTTCTGAAGGTGCAAC  
 AGTGACCAGTGCCACCTCCCTGCACCAATGAAAAATTCTCCTGTGAGCTCCGCATGTCCTGGCTCATC  
 CGCGGGTTTTGAGAGGAAACGTATCTCTGGTGTGGTGGAGAACAAAACCGGAAAGGAGCAAAGCCGGA  
 CTGTCTGGCATGTCGCCACTGACGAAGGCTTAAGCCTGTGGCAGCATACAGTGTGTCCCTCCTCGATGT  
 GACTGACAGGTTCTGGCTGCAGATAGTCACATGGTGGGGTCCAGGATCCAGGGCAACCGTGGGATTTGAC  
 AACATTTCCATCAGCCTCGACTGCTACCTTACCATCAGTGGAGAGGAGAAAAATGTCCCTGAATTCAGTAC  
 CCAAATCTAGAAATCTGTTTGGAAAAACCCAAACAAGGAGTCAAAATCCTGGGCAACATATCAGGACC  
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 TGAAGGGAGTCCAGATTTGGAAAGTGCCAGCTACTGACACCTACAGTATCTCGGGCTACGGAGCAGCTGG  
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 CCCCAGGCCATGAAGAAGTGGGGTGGGAGACAAGAGGGGGTTTCGGAGGGGGTGGAGGGGGTGTCTCT  
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 GTCACCCACCCCGAGCCACCTGCCGTCTCATTGATCCTCTCCGTCGTGACCTCTCCCTGGTGGCT  
 GCCCTTGTCTGGCATTCTCCGGCATCATGATTGTGTACCGTCGGAAGCACCAGGAGTTGCAGGCTATGC  
 AGATGGAAGTGCAGAGCCCCGAGTATAAGCTGAGCAAGCTACGGACCTCGACCATCATGACCGACTACAA  
 CCCCAACTACTGCTTCGCTGGCAAGACTTCTCCATCAGTACCTGAAAGAAGTGCACGGAAAAACATC  
 AACTCATCCGGGGCCTAGGCCATGGCGCATTGGGGAGGTGTATGAAGGCCAGGTGTCTGGAATGCCCA  
 ATGACCCAAGCCCTCTACAAGTGGCTGTAAGACGCTGCCAGAAGTGTGTTGAGAACAAGATGAGCTGGA  
 CTTTCTCATGGAAGCTCTGATCATCAGCAAATCAACCACCAGAATATTGTTGCTGCATCGGGTGTGAT  
 CTACAAGCCCTGCCCGCTTCTCCTGTGGAAGTGTGCTGGCTGGCGGAGACCTCAAGTCTTCTCAGGG  
 AGACACGCCCTCGCCGAACCAACCCACCTCCCTGGCCATGCTGGACCTTCTGCATGTGGCTCGGGACAT  
 TGCTGTGGCTGTGAGTACCTAGAGGAGAATCACTTTATCCACCGGGATATTGCTGCTAGAAACTGTCTG  
 TTGACCTGCCAGGAGCTGGAAGAATAGCAAAGATTGGAGACTTTGGGATGGCCCGAGATATCTACAGGG  
 CCAGTACTACCGAAAGGGAGGCTGCGCCATGCTGCCGGTCAAGTGGATGCCCTTGAAGCCTTCTGGA  
 AGGGATATTTACCTCTAAAACAGACACATGGTCTTTGGAGTGTGCTATGGGAAATATTTTCTTGGGA  
 TATATGCCGTACCCAGCAAGAGCAACCAGGAAGTCTGGAGTTGTACCAGCGGAGGACGGATGGACC  
 CGCCTAAGAACTGCCCGGGCCTGTATACCGGATAATGACGCAGTGTGGCAGCATCAGCCTGAAGACAG  
 ACCCAACTTCGCCATCATTTTGGAGAGGATCGAATACTGCACCCAGGACCCCGATGTGATCAACACAGCT  
 CTGCCATCGAATACGGTCCAGTAGTAGAAGAGGAGGAGAAAGTGCCCATGCGCCCCAAAGACCCCGAGG  
 GGATGCCACCTTTGCTGGTGTCTCCCCAGCCTGCGAAGCACGAGGAGGCGTCCGCAGTCCCCAGCCCGC  
 AGCCCTGACGGCACAGGCCATCGGTGAAGAAGCCCCGGTGCGGGTGCGGGCGCGGGTGC  
 GGTGCCGGCCCGTGCCTGAGGTGCGGCCGATCGGGCCACGTGAACATGGCTTCTCTCAGCCCAACC  
 CTCCCCGGAGCTGCACAAAGGCCCGGGATCCAGAAACAAGCCGACCAGCCTGTGGAACCCACCTACGG  
 CTGTTGGTTCACCGAGAAGCCTGCCAAAAGACCCATCCTCCGCCAGGCGCCAGCCGAGCGCGGGCA  
 GGAGCGCGGAGGTTGGTGGACCGGGCGGGCGGGGCCCCGAGAGCCGAGGACGCGCTGCTGTAG  
 AGCCATCGGCGTGCAGGCCACCATGAAGGAGTGCCTGTTTACGGCTGCGCCACTTCCCTGCGGCAA  
 TGTCAACTATGGTTACCAGCAACAGGGTCTCCCTTGAAGCCACAGCCGCGCCAGGGGACACCATGCTG  
 AAAAGCAAGAATAAGGTCACCCAGCCGGGGCC TGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Chromatograms:	<a href="https://cdn.origene.com/chromatograms/ja2273_b01.zip">https://cdn.origene.com/chromatograms/ja2273_b01.zip</a>
Restriction Sites:	Sgfl-Mlul
ACCN:	NM_007439
Insert Size:	4866 bp
OTI Disclaimer:	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a></p>
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
RefSeq:	<a href="#">NM_007439.2</a> , <a href="#">NP_031465.2</a>
RefSeq Size:	5918 bp
RefSeq ORF:	4866 bp
Locus ID:	11682
UniProt ID:	<a href="#">P97793</a>
Cytogenetics:	17 43.77 cM

**Gene Summary:**

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 at the first tyrosine of the Y-x-x-x-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.[UniProtKB/Swiss-Prot Function]