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Product datasheet for RC600055

ALK (NM_004304) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALK (NM_004304) Human Tagged ORF Clone
Tag:	DDK-His
Symbol:	ALK
Synonyms:	CD246; NBLST3
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5-DDK-His (PS100068)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>RC600055 representing leader sequence plus the extracellular domain region of NM_004304
Red=Cloning site Blue=ORF Green=Tags(s)

GTAATACGACTCACTATAGGGCGGCCGCGAATTCGTCGACTGGATCTGGTACCGAGGAGATCCGCCGCCG
CGATCGCC

ATGGGAGCCATCGGGCTCCTGTGGCTCCTGCCGCTGCTGCTTTCCACGGCAGCTGTGGGCTCCGGGATGG
GGACCGGCCAGCGCGCGGGCTCCCCAGCTGCGGGGCCGCCGCTGCAGCCCCGGGAGCCACTCAGCTACTC
GCGCCTGCAGAGGAAGAGTCTGGCAGTTGACTTCGTGGTGCCCTCGCTCTTCCGTGTCTACGCCCGGGAC
CTACTGCTGCCACCATCCTCCTCGGAGCTGAAGGCTGGCAGGCCCGAGGCCCGCGGCTCGCTAGCTCTGG
ACTGCGCCCCGCTGCTCAGGTTGCTGGGGCCGGCGCCGGGGGTCTCCTGGACCGCCGGTTCACCAGCCCC
GGCAGAGGCCCGGACGCTGTCCAGGGTGCTGAAGGGCGGCTCCGTGCGCAAGCTCCGGCGTGCCAAGCAG
TTGGTGCTGGAGCTGGGCGAGGAGGCGATCTTGGAGGGTTGCGTCGGGCCCCCCGGGGAGGCGGCTGTGG
GGCTGCTCCAGTTCAATCTCAGCGAGCTGTTCAGTTGGTGGATTCGCCAAGGCGAAGGGCGACTGAGGAT
CCGCCTGATGCCCGAGAAGAAGGCGTCGGAAGTGGGCAGAGAGGGAAGGCTGTCCGCGGCAATTCGCGCC
TCCCAGCCCCGCCTTCTCTTCCAGATCTTCGGGACTGGTCATAGCTCCTTGGAATCACCAACAAACATGC
CTTCTCCTTCTCCTGATTATTTTACATGGAATCTCACCTGGATAATGAAAGACTCCTTCCCTTTCCTGTC
TCATCGCAGCCGATATGGTCTGGAGTGCAGCTTTGACTTCCCCTGTGAGCTGGAGTATTCCCCTCCACTG
CATGACCTCAGGAACCAGAGCTGGTCCTGGCGCCGCATCCCCTCCGAGGAGGCCTCCCAGATGGACTTGC
TGGATGGGCCTGGGGCAGAGCGTTCTAAGGAGATGCCCAGAGGCTCCTTTCTCCTTCTCAACACCTCAGC
TGACTCCAAGCACACCATCCTGAGTCCGTGGATGAGGAGCAGCAGTGAGCACTGCACACTGGCCGTCTCG
GTGCACAGGCACCTGCAGCCCTCTGGAAGGTACATTGCCCAGCTGCTGCCCCACAACGAGGCTGCAAGAG
AGATCCTCCTGATGCCCACTCCAGGGAAGCATGGTTGGACAGTGCTCCAGGGAAGAATCGGGCGTCCAGA
CAACCCATTTCGAGTGGCCCTGGAATACATCTCCAGTGGAAACCGCAGCTTGTCTGCAGTGGACTTCTTT
GCCCTGAAGAACTGCAGTGAAGGAACATCCCCAGGCTCCAAGATGGCCCTGCAGAGCTCCTTCACTTGTT
GGAATGGGACAGTCCTCCAGCTTGGGCAGGCCTGTGACTTCCACCAGGACTGTGCCCAGGGAGAAGATGA

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GAGCCAGATGTGCCGGAAACTGCCTGTGGGTTTTTACTGCAACTTTGAAGATGGCTTCTGTGGCTGGACC
CAAGGCACACTGTCACCCCACACTCCTCAATGGCAGGTCAGGACCCTAAAGGATGCCCGGTTCCAGGACC
ACCAAGACCATGCTCTATTGCTCAGTACCACTGATGTCCCCGCTTCTGAAAGTGCTACAGTGACCAGTGC
TACGTTTCCTGCACCGATCAAGAGCTCTCCATGTGAGCTCCGAATGTCCTGGCTCATTCGTGGAGTCTTG
AGGGGAAACGTGTCCTTGGTGCTAGTGGAGAACAAAACCGGGAAGGAGCAAGGCAGGATGGTCTGGCATG
TCGCCGCCTATGAAGGCTTGAGCCTGTGGCAGTGGATGGTGTTGCCTCTCCTCGATGTGTCTGACAGGTT
CTGGCTGCAGATGGTCGCATGGTGGGGACAAGGATCCAGAGCCATCGTGGCTTTTGACAATATCTCCATC
AGCCTGGACTGCTACCTCACCATTAGCGGAGAGGACAAGATCCTGCAGAATACAGCACCCAAATCAAGAA
ACCTGTTTGAGAGAAACCCAAACAAGGAGCTGAAACCCGGGGAAAATTCACCAAGACAGACCCCCATCTT
TGACCCTACAGTTCATTGGCTGTTCACCACATGTGGGGCCAGCGGGCCCCATGGCCCCACCCAGGCACAG
TGCAACAACGCCTACCAGAACTCCAACCTGAGCGTGGAGGTGGGGAGCGAGGGCCCCCTGAAAGGCATCC
AGATCTGGAAGGTGCCAGCCACCGACACCTACAGCATCTCGGGCTACGGAGCTGCTGGCGGGAAAGGCGG
GAAGAACACCATGATGCGGTCCCACGGCGTGTCTGTGCTGGGCATCTTCAACCTGGAGAAGGATGACATG
CTGTACATCCTGGTTGGGCAGCAGGGAGAGGACGCCTGCCCCAGTACAAACCAGTTAATCCAGAAAGTCT
GCATTGGAGAGAACAATGTGATAGAAGAAGAAATCCGTGTGAACAGAAGCGTGCATGAGTGGGCAGGAGG
CGGAGGAGGAGGGGGTGGAGCCACCTACGTATTTAAGATGAAGGATGGAGTGCCGGTGCCCCTGATCATT
GCAGCCGGAGGTGGTGGCAGGGCCTACGGGGCCAAGACAGACACGTTCCACCCAGAGAGACTGGAGAATA
ACTCCTCGGTTCTAGGGCTAAACGGCAATTCCGGAGCCGCAGGTGGTGGAGGTGGCTGGAATGATAACAC
TTCCTTGCTCTGGGCCGGAAAATCTTTGCAGGAGGGTGCCACCGGAGGACATTCCTGCCCCCAGGCCATG
AAGAAGTGGGGGTGGGAGACAAGAGGGGGTTTCGGAGGGGGTGGAGGGGGGTGCTCCTCAGGTGGAGGAG
GCGGAGGATATATAGGCGGCAATGCAGCCTCAAACAATGACCCCGAAATGGATGGGGAAGATGGGGTTTC
CTTCATCAGTCCACTGGGCATCCTGTACACCCCAGCTTTAAAAGTGATGGAAGGCCACGGGGAAGTGAAT
ATTAAGCATTATCTAAACTGCAGTCACTGTGAGGTAGACGAATGTCACATGGACCCTGAAAGCCACAAGG
TCATCTGCTTCTGTGACCACGGGACGGTGCTGGCTGAGGATGGCGTCTCCTGCATTGTGTCACCCACCCC
GGAGCCACACCTGCCACTCTCGCTGATCCTCTCT

ACGCGTTCAGGCGACTACAAGGATGACGACGATAAGGGATCTCATCATCACCATCACCATTAATGAGATC
TGGTACCGATATCAAGCTTGTCGACTCTAGA

Protein Sequence:

>RC600055 representing signal peptide plus the extracellular domain region of NM_004304
Red=Cloning sites Green= DDK and 6XHIS Tags

MGAIGLLWLLPLLLSTAAVGSGMGTGQRAGSPAAGPPLQPREPLSYSRLQRKSLAVDFVVPSLFRVYARD
LLLPPSSSELKAGRPEARGSLALDCAPLLRLLGPAPGVSWTAGSPAPAEARTLSRVLKGGSVRKLRRAKQ
LVLELGEEAILEGCVGPPGEAAVGLLQFNLSELFSWWIRQGEGRLRIRLMPEKKASEVGREGRLSAAIRA
SQPRLLFQIFGTGHSSLESPTNMPSPSPDYFTWNLTWIMKDSFPFLSHRSRYGLECSFDFPCELEYSPPL
HDLRNQSWSWRRIPSEEASQMDLLDGPGAERSKEMPRGSFLLLNTSADSKHTILSPWMRSSSEHCTLAVS
VHRHLQPSGRYIAQLLPHNEAAREILLMPTPGKHGWTVLQGRIGRPDNPFRVALEYISSGNRSLSAVDFF
ALKNCSEGTSPGSKMALQSSFTCWNGTVLQLGQACDFHQDCAQGEDESQMCRKLPVGFYCNFEDGFCGWT
QGTLSPHTPQWQVRTLKDARFQDHQDHALLLSTTDVPASESATVTSATFPAPIKSSPCELRMSWLIRGVL
RGNVSLVLVENKTGKEQGRMVWHVAAYEGLSLWQWMVLPLLDVSDRFWLQMVAWWGQGSRAIVAFDNISI
SLDCYLTISGEDKILQNTAPKSRNLFERNPNKELKPGENSPRQTPIFDPTVHWLFTTCGASGPHGPTQAQ
CNNAYQNSNLSVEVGSEGPLKGIQIWKVPATDTYSISGYGAAGGKGGKNTMMRSHGVSVLGIFNLEKDDM
LYILVGQQGEDACPSTNQLIQKVCIGENNVIEEEIRVNRSVHEWAGGGGGGGGATYVFKMKDGVPVPLII
AAGGGGRAYGAKTDTFHPERLENNSSVLGLNGNSGAAGGGGGWNDNTSLLWAGKSLQEGATGGHSCPQAM
KKWGWETRGGFGGGGGGCSSGGGGGGYIGGNAASNNDPEMDGEDGVSFISPLGILYTPALKVMEGHGEVN
IKHYLNCSHCEVDECHMDPESHKVICFCDHGTVLAEDGVSCIVSPTPEPHLPLSLILS

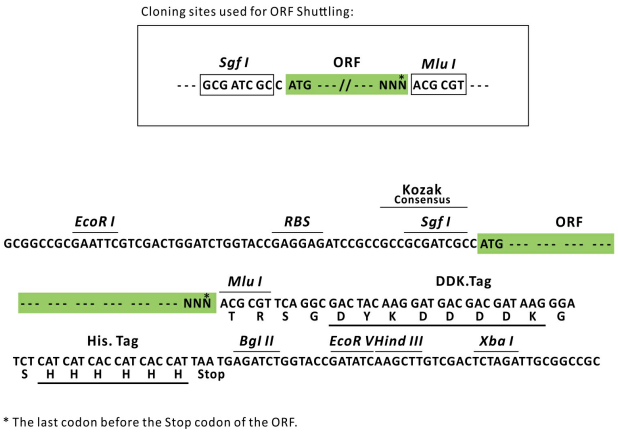
TRSGTRSGDYKDDDDKGSHHHHHH

Chromatograms:

https://cdn.origene.com/chromatograms/mk8118_a06.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_004304

ORF Size: 3114 bp

OTI Disclaimer: 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. More info

OTI Annotation: This clone was engineered to express the extra cellular domain of the protein with an expression tag. Expression varies depending on the nature of the gene.

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:
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
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.

RefSeq: NM_004304.4, NP_004295.2

RefSeq Size: 6267 bp

RefSeq ORF: 4863 bp

Locus ID: 238

UniProt ID: Q9UM73

Cytogenetics:	2p23.2-p23.1
Protein Families:	Druggable Genome, Protein Kinase
MW:	112.1 kDa
Gene Summary:	This gene encodes a receptor tyrosine kinase, which belongs to the insulin receptor superfamily. This protein comprises an extracellular domain, an hydrophobic stretch corresponding to a single pass transmembrane region, and an intracellular kinase domain. It plays an important role in the development of the brain and exerts its effects on specific neurons in the nervous system. This gene has been found to be rearranged, mutated, or amplified in a series of tumours including anaplastic large cell lymphomas, neuroblastoma, and non-small cell lung cancer. The chromosomal rearrangements are the most common genetic alterations in this gene, which result in creation of multiple fusion genes in tumourigenesis, including ALK (chromosome 2)/EML4 (chromosome 2), ALK/RANBP2 (chromosome 2), ALK/ATIC (chromosome 2), ALK/TFG (chromosome 3), ALK/NPM1 (chromosome 5), ALK/SQSTM1 (chromosome 5), ALK/KIF5B (chromosome 10), ALK/CLTC (chromosome 17), ALK/TPM4 (chromosome 19), and ALK/MSN (chromosome X).[provided by RefSeq, Jan 2011]