

Product datasheet for RC402696

ALK (NM_004304) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	ALK (NM_004304) Human Mutant ORF Clone
Mutation Description:	T1087I
Affected Codon#:	1087
Affected NT#:	3260
Nucleotide Mutation:	ALK Mutant (T1087I), Myc-DDK-tagged ORF clone of Homo sapiens anaplastic lymphoma receptor tyrosine kinase (ALK) as transfection-ready DNA
Effect:	Neuroblastoma
Symbol:	ALK
Synonyms:	CD246; NBLST3
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_004304
ORF Size:	4860 bp
Restriction Sites:	SgfI-MluI
ORF Nucleotide Sequence:	>RC402696 representing NM_004304 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGAGCCATCGGGCTCCTGTGGCTCCTGCCGCTGCTGCTTTCCACGGCAGCTGTGGGCTCCGGGATGG
GGACCGGCCAGCGCGGGCTCCCCAGCTGCGGGCCGCCGCTGCAGCCCGGGAGCCACTCAGCTACTC
GCGCCTGCAGAGGAAGAGTCTGGCAGTTGACTTCGTGGTGCCCTCGCTTCCGTGTCTACGCCGGGAC
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GGCAGAGGCCCGGACGCTGTCCAGGGTCTGAAGGGCGGCTCCGTGCGCAAGCTCCGGCGTGCCAAGCAG
TTGGTGTGGAGCTGGGCGAGGAGCGATCTTGAGGGTTGCGTCGGGCCCCCGGGAGCGGCTGTGG



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GGCTGCTCCAGTTCAATCTCAGCGAGCTGTTTCAGTTGGTGGATTGCGCAAGGCGAAGGGCGACTGAGGAT
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AGCAAGAATAGCATGAACCAGCCTGGGCC

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

>RC402696 representing NM_004304
Red=Cloning site Green=Tags(s)

MGAIGLLWLLPLLLSTAAVSGMGTGQRAGSPAAGPPLQPREPLSYSRLQRKSLAVDFVPSLFRVYARD
LLLPPSSSELKAGRPEARGLALDCAPLLRLLGPAPGVSWTAGSPAPAEARTLSRVLKGGSVRKLRRAKQ
LVLELGEEAILEGCVGPPGEAAVGLLQFNLSLFSWWIRQEGRLRIRLMPEKKASEVREGRLSAAIRA
SQPRLLFQIFGTGHSSLESPTNMPSPSPDYFTWNL TWIMKDSFPFLSHRSRYGLECSDFPCELEYSPL
HDLRNQSWRRIPSEEASQMDLLDGPGAERSKEMPRGSFLLNNTSADSKHTILSPWMRSSSEHCTLAVS
VHRHLQPSGRYIAQLLPHNEAAREILLMPTPGKHGWTVLQGRIGRPDNPFRVALEYISSGNRSLSAVDF
ALKNCSEGTSPGSKMALQSSFTCWNGTVLQLGQACDFHQDCAQGEDESQMCRKLPVGFYCNFEDGFCGWT
QGTLSPHTPQWQVRTLKDARFQDHDHALLSTTDVPASESATVTSATFPAPIKSSPCELMSWLIRGVL
RGNVSLVLVENKTGKEQGRMVHVAAYEGLSLWQWMLPLLDVSDRFLQMVAVWVGQGSRAIVAFDNISI
SLDCYL TISGEDKILQNTAPKSRNL FERNPNKELKPGENSPRQTPIFDPTVHWLFTTCGASGPHGPTAQ
CNNAYQNSNL SVEVGSEGPLKGIQIWKVPATDYISISGYAAGGKGGKNTMMRSHGVSVLGIFNLEKDDM
LYILVGQGEDACPSTNQLIQKVICIENNVIEEIRVNRSVHEWAGGGGGGGATYVFKMKDGVVPLII
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KKWGWETRGGFGGGGGCSSGGGGGYIGGNAASNNDPEMDGEDGVSFISPLGILYTPALKVMEGHGEVN
IKHYLNCSHCEVDECHMDPESHKVICFDHGTVLAEDGVSCIVSPTPEPHLPLSLILSVVTSALVAALVL
AFSGIMIVYRRKHQELQAMQELQSPEYKLSKLRTSIIIMTDYNPNYCFAGKTSSISDLKEVPRKNITLIR
GLGHGAFGEVYEQVSGMPNDPSPLQVAVKTLPEVCSEQDELDFLMEAL IISKFNHQNIVRCIGVSLQSL
PRFILLELMAGGDLKSFRLRETRPRSPSSLA MLDLLHVARDIACGCQYLEENHF IHRDIAARNCLLTC
GPGRVAKIGDFGMARDIYRASYYRKGCCAMLPVKWMPPEAFMEGIFTSKTDTSFVLLWEIFSLGYMPY
PSKSNQEVLEFVTSGGRMDDPKNCPGPVYRIMTQCWQHQPEDRPNFAIILERIEYCTQDPDVINTALPIE
YGPLVEEEEKVPVRPKDPEGVPPLLVSQAKREEERSPAAPPPLPTSSGKAACKPTAAEISVRVPRGPA
VEGGHVNFMAFSQSNPPSELHKVHGSRNKPTSLWNPTYGSWFTEKPTKKNPIAKKEPHDRGNLGLGEGSCT
VPPNVATGRLPGASLLEPSSLTANMKEVPLFRLRHFPCGNVNYGYQQQLPLEAATAPGAGHYEDTILK
SKNSMNQPGP

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

OTI Disclaimer:

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 custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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 complete ORF 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).

RefSeq:

[NP_004295](#)

RefSeq Size:

4860 bp

RefSeq ORF:

4863 bp

Locus ID:	238
Cytogenetics:	2p23.2-p23.1
Protein Families:	Druggable Genome, Protein Kinase
MW:	178.2 kDa
Gene Summary:	<p>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]</p>