

Product datasheet for **SC323592**

NLK (NM_016231) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	NLK (NM_016231) Human Untagged Clone
Tag:	Tag Free
Symbol:	NLK
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_016231, the custom clone sequence may differ by one or more nucleotides

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ATGTCTCTTTGTGGCGCAAGAGCCAACGCAAAAATGATGGCGGCTTACAATGGCGGTACATCTGCAGCAG
CAGCAGGTCAACCACCACCACCATCAACCACCACCTCCACACCTCCCTCCTCCTCAGTGCACCACCACCA
CCACCCTCAACACCATCTTCATCCGGGGTGGGCTGCCGCTGTACACCCTGTACAGCAGCACACCTCTTCG
GCAGCTGCGGCAGCCGCAGCAGCGGCTGCAGCTGCAGCCATGTTAAACCTGGGCAACAACAGCCATATT
TCCCATCACCGGCACCGGGCAGGCTCCTGGACCAGCTGCAGCAGCCCCAGCTCAGGTACAGGCTGCCGC
AGCTGCTACAGTTAAGGCGCACCATCATCAGCACTCGCATCATCCACAGCAGCAGCTGGATTGAGCCG
GATAGACCTATTGGATATGGAGCCTTTGGTGTGTTGTCAGTAAACAGATCCAAGAGATGGAAAGAGAG
TAGCGCTCAAAAAGATGCCAACGCTCTCCAGAATCTGGTCTCTTGCAAAAAGGGTCTCCGGGAATTGAA
GATGTTGTGTTTTTTAAGCATGATAATGTACTCTCTGCCCTTGACATACTCCAACCTCCACACATTGAC
TATTTTGAAGAAATATATGTTGTCACAGAATTGATGCAGAGTGACCTACATAAAATATCGTCTCTCCTC
AACCACTCAGCTCAGATCATGTCAAAGTTTTCTTTATCAGATTTTGCAGGTTTGAATATCTCCATTC
AGCTGGCATTTCATCGAGACATTAAGCCAGGAATCTCCTTGTGAACAGCAACTGTGTTCTAAAGATT
TGTGATTTGGATTGGCCAGAGTGAAGAATTAGATGAATCCCGTCATATGACTCAGGAAGTTGTTACTC
AGTATTATCGGGCTCCAGAAATCCTGATGGCAGCCGTCATTACAGCAATGCTATTGACATCTGGTCTGT
GGGATGTATCTTTGCAGAACTACTAGGACGAAGAATATTGTTTCAGGCACAGAGTCCCATTACAGCAGTTG
GATTTGATCACGGATCTGTTGGGCACACCATCACTGGAAGCAATGAGGACAGCTTGTGAAGCGCTAAGG
CACATATACTCAGGGTCTCATAAACAGCCATCTCTTCTGTACTCTATACCCTGTCTAGCCAGGCTAC
ACATGAAGCTGTTTCATCTCCTTTGCAGGATGTTGGTCTTTGATCCATCCAAAAGAATATCCGCTAAGGAT
GCCTTAGCCCACCCTACCTAGATGAAGGGCGACTACGATATCACACATGTATGTGTAATGTTGCTTTT
CCACCTCCACTGGAAGAGTTTATACCAGTGACTTTGAGCCTGTCACCAATCCCAAATTTGATGACTTTT
CGAGAAGAACCTCAGTTCTGTCCGACAGGTTAAGAAATATTTCATCAGTTCATTTTGAACAGCAGAAA
GGAAACAGAGTGCCTCTCTGCATCAACCCTCAGTCTGCTGCTTTAAGAGCTTTATTAGTCCACTGTTG
CTCAGCCATCTGAGATGCCCCATCTCCTCTGGTGTGGGAGTGA

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5' Read Nucleotide Sequence:	>OriGene 5' read for mutant NM_016231 unedited ACCGCCGTTGAGCAATGGGCGGTAGGCGGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAA CCGTCAGAATTTTGAATACGACTCACTATAGGGCGGCCGCAATTCGGCAGCAGGGGGTCTTTTTTC CTTTTTCTTTCTTTTTCCCTTTTTTTTCTTTTTGGCAACCCACACCCTCCACACAGCTCACCCCAA AATTAACACCAAGATCCTCTAACTTGTGGATTGACTGATGAAGACATAAAGCTCTATGTTTTTGAG GTGGAGTGAGTGGTTTTTCTTCATTTTTAAATGGCCAAATGACAGCTTGACCCAGTTTGCTTCCAATCA AAGGGCATTTTTTGAATGTCTTTTGTGGCGCAAGAGCCACCGCAAAAATGATGGGCGGCTTACAAT GGCGGTCACTGCAGCAGCAGGTACCACCACCACCATACCACCACCTTCCAACCTCTTCTCTAACT GAACACCACCACCTAAAACATTTTATCGGGGTGGCTGCGCTTACCCCGAAAAGAGCAACCTTGGAGTG GGAACCAAAACGCTGATTGCACATTAACCTGGAACACACCAATTCACCGCCGGGCGAGGCTGACATCGC AACCCATTAGACGGCGGACTCATAAGGCCACATACGCTGCACTCAGACGGTTGCGCGACCTGATAGCTT GGTCGGTCAATCAAGAAAGCCGAGACCTCTCATGTTGAAGTCGAGAAAGTGTACAGCCCCCCCCCCCC CCTTAAAAA
Kinase Domain Sequence:	>SC323592 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation CTCMAGCAGCAGCTGGWATTGAGCCGATAGACCTATTGGATATGGAGCCTTTGGTGTGTCTGGTCAGT AACAGATCCAAGAGATGGAAAGAGAGTAGCGCTCATGAAGATGCCAACGCTTCCAGAATCTGGTCTCT TGCAAAAGGGTCTCCGGGAATTGAAGATGTTGTGTTTTTTAAGCATGATAATGTACTCTCTGCCCTTG ACATACTCCAACCTCCACACATTGACTATTTTGAAGAAATATATG
Restriction Sites:	Please inquire
ACCN:	NM_016231
Insert Size:	3800 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell. 2008 May p536-548.
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"> 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_016231.2 , NP_057315.2
RefSeq Size:	3555 bp

RefSeq ORF: 3555 bp

Locus ID: 51701

UniProt ID: [Q9UBE8](#)

Cytogenetics: 17q11.2

Domains: pkinase, TyrKc, S_TKc

Protein Families: Druggable Genome, Protein Kinase, Transcription Factors

Protein Pathways: Adherens junction, MAPK signaling pathway, Wnt signaling pathway

Gene Summary: Serine/threonine-protein kinase that regulates a number of transcription factors with key roles in cell fate determination. Positive effector of the non-canonical Wnt signaling pathway, acting downstream of WNT5A, MAP3K7/TAK1 and HIPK2. Activation of this pathway causes binding to and phosphorylation of the histone methyltransferase SETDB1. The NLK-SETDB1 complex subsequently interacts with PPARG, leading to methylation of PPARG target promoters at histone H3K9 and transcriptional silencing. The resulting loss of PPARG target gene transcription inhibits adipogenesis and promotes osteoblastogenesis in mesenchymal stem cells (MSCs). Negative regulator of the canonical Wnt/beta-catenin signaling pathway. Binds to and phosphorylates TCF7L2/TCF4 and LEF1, promoting the dissociation of the TCF7L2/LEF1/beta-catenin complex from DNA, as well as the ubiquitination and subsequent proteolysis of LEF1. Together these effects inhibit the transcriptional activation of canonical Wnt/beta-catenin target genes. Negative regulator of the Notch signaling pathway. Binds to and phosphorylates NOTCH1, thereby preventing the formation of a transcriptionally active ternary complex of NOTCH1, RBPJ/RBPSUH and MAML1. Negative regulator of the MYB family of transcription factors. Phosphorylation of MYB leads to its subsequent proteolysis while phosphorylation of MYBL1 and MYBL2 inhibits their interaction with the coactivator CREBBP. Other transcription factors may also be inhibited by direct phosphorylation of CREBBP itself. Acts downstream of IL6 and MAP3K7/TAK1 to phosphorylate STAT3, which is in turn required for activation of NLK by MAP3K7/TAK1. Upon IL1B stimulus, cooperates with ATF5 to activate the transactivation activity of C/EBP subfamily members. Phosphorylates ATF5 but also stabilizes ATF5 protein levels in a kinase-independent manner (PubMed:25512613). [UniProtKB/Swiss-Prot Function]