

## Product datasheet for **TP308723L**

### NLK (NM\_016231) Human Recombinant Protein

#### Product data:

**Product Type:** Recombinant Proteins

**Description:** Recombinant protein of human nemo-like kinase (NLK), 1 mg

**Species:** Human

**Expression Host:** HEK293T

**Expression cDNA** >RC208723 protein sequence

**Clone or AA** Red=Cloning site Green=Tags(s)

**Sequence:**

MSLCGARANAKMMAAYNGGTSAAATGHHHHHHHHLPHLPPPHLHHHHHPQHHLHPGSAAAVHPVQQHTSS  
AAAAAAAAAAAAAAMLNPGQQQPYFPSPAPGQAPGPAAPAAQVQAAAAATVKAHHHQHSHHPQQQLDIEP  
DRPIGYGAFGVVSVTDPRDGKRVALKKMPNVFQNLVSCRVFRELKMLCFFKHDNVLSALDILQPPHID  
YFEIYVTELMQSDLHKIIVSPQPLSSDHVKVFLYQILRGLKYLHSAGILHRDIKPGNLLVNSNCVLKI  
CDFGLARVEELDESRHMTQEVVTQYRAPEILMGSRHYSNAIDIWSVGCIFAELLGRRILFQAQSPIQQL  
DLITDLLGTPSLEAMRTACEGAKAHILRGPHKQPSLPVLYTLSSQATHEAVHLLCRMLVFDPSKRISAKD  
ALAHPYLDEGRRLRYHTCMCKCCFSTSTGRVYTSDFEPVTNPKFDDTFEKNLSSVRQVKEIIHQFILEQQK  
GNRVPLCINPQSAAFKSFISSTVAQPSEMPPSPLVWE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Tag:** C-Myc/DDK

**Predicted MW:** 58.1 kDa

**Concentration:** >0.05 µg/µL as determined by microplate BCA method

**Purity:** > 80% as determined by SDS-PAGE and Coomassie blue staining

**Buffer:** 25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol

**Preparation:** Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.

**Note:** For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.

**Storage:** Store at -80°C.

**Stability:** Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.



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RefSeq: [NP\\_057315](#)

Locus ID: 51701

UniProt ID: [Q9UBE8](#), [A0A024QZ12](#)

RefSeq Size: 3555

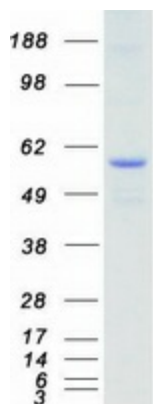
Cytogenetics: 17q11.2

RefSeq ORF: 1581

**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]

**Protein Families:** Druggable Genome, Protein Kinase, Transcription Factors

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

**Product images:**

Coomassie blue staining of purified NLK protein (Cat# [TP308723]). The protein was produced from HEK293T cells transfected with NLK cDNA clone (Cat# [RC208723]) using MegaTran 2.0 (Cat# [TT210002]).