

Product datasheet for **SC323652**

ARK5 (NUAK1) (NM_014840) Human Untagged Clone

Product data:

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|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | ARK5 (NUAK1) (NM_014840) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | NUAK1 |
| Synonyms: | ARK5 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >OriGene ORF within SC323652 sequence for NM_014840 edited (data generated by NextGen Sequencing)

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ATGGAAGGGGCCCGCGCCTGTGGCGGGGACCGCCCCGACTTGGGGCTGGGGCGCCG
GGCTCTCCCCGAGAGGCGGTGGCGGGGGCGACTGCAGCCCTGGAGCCCAGGAAGCCGCAC
GGGGTGAAGCGGCATCACCACAAGCACAACCTTGAAGCACCGCTACGAGCTGCAGGAGACC
CTGGGCAAAGGCACCTACGGCAAAGTCAAGCGGGCCACCGAGAGGTTTTCTGGCCGAGTG
GTTGCTATAATGTCATTTCGTAAGGACAAAATTAAGGATGAACAAGACATGGTTACATC
AGACGAGAGATTGAGATCATGTCTCTCAACCATCCTCATATCATAGTATTTATGAA
GTGTTTGAGAACAAGATAAGATTGTGATCATCATGGAATATGCCAGCAAAGGGGAGCTG
TACGATTACATCAGTGAGCGGCGACGCCTCAGTGAGAGGGAGACCCGGCACTTCTCCGG
CAGATCGTCTCTGCTGTGCACTATTGTCACAAGAACGGTGTGGTCCACCGGGACTTGAAG
CTGGAAAATATACTGCTCGATGACAACCTGCAATATTAAGATTGCTGACTTTGGGCTTTCC
AACCTGTACCAGAAGGATAAGTTCTTACAACGTTTTGTGGGAGTCCACTCTATGCATCT
CCTGAGATTGTCAATGGGAGACCTTACCGAGGGCCAGAGGTGGACAGCTGGGCCCTGGGT
GTGTTGCTTTACTCTTGTATGGAACAATGCCCTTCGATGGTTTCGATCACAAAAAC
CTATTCCGCAAATCAGCAGCGGAGAGTACCGGGAGCCAAACACAGCCCTCAGATGCTCGA
GGACTCATACGGTGGATGCTGATGGTGAACCCCGATCGCCGGGCCACTATTGAGGACATT
GCCAACCACTGGTGGTGAACCTGGGGCTATAAGAGCAGCGTGTGTGACTGTGATGCCCTC
CATGACTCTGAGTCCCCACTCCTGGCTCGGATCATTGACTGGCACCACCGTTCCACAGGG
CTGCAGGCTGACACCGAAGCCAAAATGAAGGGCTGGCCAAACCCACGACCTCTGAGGTC
ATGCTAGAGCGGCAGCGGTGCTGAAGAAATCCAAGAAAGAGAATGACTTTGCTCAGTCT
GGTCAGGATGCAGTGCCTGAAAGCCCATCCAAGTTGAGTTCTAAGAGGCCCAAGGGGATC
CTGAAGAAGCGAAGCAACAGCGAGCATCGCTCTCACAGCACTGGCTTCATTGAAGGTGTA
GTTGGTCTGCCTTACCCTCTACTTTCAAGATGGAGCAGGACTTGTGCAGGACTGGCGTG
CTCCTCCCAAGCTCACCGAGGCGAGGTTGCCGGGAAAACCTCAGCCCAAGCAGTCGGCC
ACGATGCCAAGAAAGGCATCTTGA AAAAGACCCAGCAGAGAGAATCAGGTTACTACTCT
TCCCCAGAGCGCAGTGAGTCTTCGGAGCTGTTGGACAGTAATGATGTGATGGGCAGCAGC
ATCCCCTCCCCAGCCCCCGGACCCAGCCAGGGTAACCTCCCACAGCCTCTCCTGCCGG
AGGAAGGGCATCTTGAACACAGCAGCAAATACTCAGCGGGCACCATGGACCCAGCCCTG
GTCAGCCCTGAAATGCCACACTGGAATCCCTGTCAGAGCCTGGTGTCCCTGCCGAGGGC
CTCTCCCGGAGCTACAGCCGCCCTTCCAGTGTATCAGCGATGACAGCGTGTGTCCAGC
GACTCTTTTGACTTGCTGGATTTGCAGGAGAATCGCCCTGCCCGCCAGCGCATCCGAGC
TGCGTCTCTGCAGAAAATTCCTCCAGATCCAGGACTTTGAGGGGCTCCAGAACC GGCC
CGGCCCCAGTACCTGAAGCGGTACCGGAACCGGCTGGCAGACAGCAGCTTCTCCCTCCTC
ACAGACATGGATGATGTGACTCAGGTCTACAAGCAAGCGCTGGAGATCTGCAGCAAGCTC
AACTAG
    
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Clone variation with respect to NM_014840.2
 251 a=>t;252 a=>g

5' Read Nucleotide Sequence:

>OriGene 5' read for mutant NM_014840 unedited

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CCGCCGTTGAGCAATGGGCGGTAGGCGTGTACGGAGGGAGGTCTATAAGCAGAGCTCGTTT
AGTGAACCGTCAGAAATTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGG
GCCACCGCCGCCACC TCGCCCGACGCTCCACAGCTCGCCGCGGCCGGGGGGCGGTGCGCG
GACCGTGCAGCGCCGCGCCAGTACCGAGCCGAGTCCGAGCGGTATCGGGCCGCTCCCTG
ATGCTGCGGGGGGACCTTGAGCGTACAGCGGCTTCCCTCGGTGGGGACCCGACATCCCAG
CGCTGTGCCCGGTGCTTGCCTCTGTAGCCCGGCTCGCCCCGCGCTTGGGACATGGGAAG
GGGGCCCGCCCGCTGGTGGCGGGGACCGCCCCGAACCTGGGGGCTGGGGGCCCGGGCTT
CTCCCCGAAAGGCGTTGCCGGGGCAAC TGCAGCCCTGGAGCCCAGAAGCCGACGGGGG
AGCGGCATCACAAAGGCCAACCTTGACCCCGCTCCG ACTGCAGAAACCTGGGCAAAGGC
CTCACGGCAAATCAAGCGGCACCGAAGGTTTTCTGGCAATGGGTGCTAAGTGCCTCTCAG
AGCAAATTAGGTAGACAACA
    
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| Kinase Domain Sequence: | >SC323652 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 TACKCAGRACCTGGGCAAGGCACCTACGGCAAAGTCAAGCGGGCCACCGAGAGGTTTTCTGGCCGAGTGG TTGCTATAATGTCCATTCGTAAGGACAAAATTAAGGATGAACAAGACATGGTTCACATCAGACGAGAGAT TGAGATCATGTCTCTCAACCATCTCATATCATCAGTATTTATGAAGTGTGGAGAACAAGATAAG ATTGTGATCATCATGGAATATGCCAGCAAAGGGGAGCTGTACGAT |
| Restriction Sites: | Please inquire |
| ACCN: | NM_014840 |
| Insert Size: | 2000 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: | Kinase deficit mutant (K84M) |
| 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_014840.2 , NP_055655.1 |
| RefSeq Size: | 6821 bp |
| RefSeq ORF: | 1986 bp |
| Locus ID: | 9891 |
| UniProt ID: | O60285 |
| Cytogenetics: | 12q23.3 |
| Domains: | pkinase, TyrKc, S_TKc |
| Protein Families: | Druggable Genome, Protein Kinase |

Gene Summary:

Serine/threonine-protein kinase involved in various processes such as cell adhesion, regulation of cell ploidy and senescence, cell proliferation and tumor progression. Phosphorylates ATM, CASP6, LATS1, PPP1R12A and p53/TP53. Acts as a regulator of cellular senescence and cellular ploidy by mediating phosphorylation of 'Ser-464' of LATS1, thereby controlling its stability. Controls cell adhesion by regulating activity of the myosin protein phosphatase 1 (PP1) complex. Acts by mediating phosphorylation of PPP1R12A subunit of myosin PP1: phosphorylated PPP1R12A then interacts with 14-3-3, leading to reduced dephosphorylation of myosin MLC2 by myosin PP1. May be involved in DNA damage response: phosphorylates p53/TP53 at 'Ser-15' and 'Ser-392' and is recruited to the CDKN1A/WAF1 promoter to participate to transcription activation by p53/TP53. May also act as a tumor malignancy-associated factor by promoting tumor invasion and metastasis under regulation and phosphorylation by AKT1. Suppresses Fas-induced apoptosis by mediating phosphorylation of CASP6, thereby suppressing the activation of the caspase and the subsequent cleavage of CFLAR. Regulates UV radiation-induced DNA damage response mediated by CDKN1A. In association with STK11, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair (PubMed:25329316).[UniProtKB/Swiss-Prot Function]