

Product datasheet for **RG219282**

ARK5 (NUAK1) (NM_014840) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ARK5 (NUAK1) (NM_014840) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	NUAK1
Synonyms:	ARK5
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG219282 representing NM_014840
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGAAGGGGCCCGCCGCTGTGGCGGGGACC GCCCGACTTGGGGCTGGGGCGCCGGGCTCTCCCC
 GAGAGGCGGTGGCGGGGCGACTGCAGCCCTGGAGCCCAGGAAGCCGACGGGGTGAAGCGGCATACCA
 CAAGCACAACTTGAAGCACCGCTACGAGCTGCAGGAGACCCTGGGCAAAGGCACCTACGGCAAAGTCAAG
 CGGGCCACCGAGAGGTTTTCTGGCCGAGTGGTTGCTATAAAATCCATTTCGTAAGGACAAAATTAAGGATG
 AACAGACATGGTTCACATCAGACGAGAGATTGAGATCATGTCATCTCTCAACCATCCTCATATCATCAG
 TATTTATGAAGTGTGGAGAACAAGATAAGATTGTGATCATCATGGAATATGCCAGCAAAGGGGAGCTG
 TACGATTACATCAGTGAAGCGGACGCCTCAGTGAGAGGGAGACCCGGCACTTCTCCGGCAGATCGTCT
 CTGCTGTGCACTATTGTACAAGAACGGTGTGGTCCACCGGGACTTGAAGCTGGAAAATACTGCTCGA
 TGACAACCTGCAATATTAAGATTGCTGACTTTGGGCTTTCCAACCTGTACCAGAAGGATAAGTTCTTACAA
 ACGTTTTGTGGGAGTCCACTCTATGCATCTCTGAGATTGTCAATGGGAGACCTTACCGAGGGCCAGAGG
 TGGACAGCTGGGCCCTGGGTGTGTTGCTTTACACTCTTGTTTATGGAACATGCCCTTCGATGGTTTCGA
 TCACAAAACCTCATTCCGCAAATCAGCAGCGGAGAGTACCGGGAGCCAACACAGCCCTCAGATGCTCGA
 GGACTCATACGGTGGATGCTGATGGTGAACCCCGATCGCCGGGCCACTATTGAGGACATTGCCAACCACT
 GGTGGGTGAAGTGGGGCTATAAGAGCAGCGTGTGTGACTGTGATGCCCTCCATGACTCTGAGTCCCCACT
 CCTGGCTCGGATCATTGACTGGCACCACCGTCCACAGGGCTGCAGGCTGACACCGAAGCCAAAATGAAG
 GGCCTGGCAAACCCACGACCTCTGAGGTATGCTAGAGCGGCAGCGGTGCTGAAGAAAATCCAAGAAAG
 AGAATGACTTTGCTCAGTCTGGTCAGGATGCAGTGCCTGAAAGCCCATCCAAGTTGAGTTCAAGAGGCC
 CAAGGGGATCCTGAAGAAGCGAAGCAACAGCAGCATCGCTCTCACAGCACTGGCTTCATTGAAGGTGTA
 GTTGGTCTGCCTTACCCTCTACTTTCAAGATGGAGCAGGACTTGTGCAGGACTGGCGTGCCTCCCAA
 GCTCACCAGAGGCAGAGGTGCCGGGAAAACCTCAGCCCCAAGCAGTCGGCCACGATGCCAAAGAAAGGCAT
 CTTGAAAAGACCCAGCAGAGAGAATCAGGTTACTACTTCCCCAGAGCGCAGTGAGTCTTCGGAGCTG
 TTGGACAGTAATGATGTGATGGGCAGCAGCATCCCCTCCCCAGCCCCCGGACCCAGCCAGGGTAACT
 CCCACAGCCTCTCTGCCGGAGGAAGGGCATCTTGAACACAGCAGCAAATACTCAGCGGGCACCATGGA
 CCCAGCCCTGGTCAGCCCTGAAATGCCACACTGGAATCCCTGTCAGAGCCTGGTGTCCCTGCCAGGGC
 CTCTCCCGGAGCTACAGCCGCCCTTCCAGTGTATCAGCGATGACAGCGTGTGTCAGCGACTCTTTTG
 ACTTGCTGGATTTGCAGGAGAATCGCCCTGCCCGCCAGCGCATCCGCAGCTGCGTCTCTGCAGAAAACT
 CCTCCAGATCCAGGACTTTGAGGGGCTCCAGAACC GGCCCGGCCCACTACCTGAAGCGGTACCGGAAC
 CGGCTGGCAGACAGCAGCTTCTCCCTCCTCACAGACATGGATGATGTGACTCAGGTCTACAAGCAAGCGC
 TGGAGATCTGCAGCAAGCTCAAC

ACGCGTACGCGGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG219282 representing NM_014840
 Red=Cloning site Green=Tags(s)

MEGAAAPVAGDRPDLGLGAPGSPREAVAGATAALEPRKPHGVKRHHKHNLKHRYELQETLGKGTYGKVK
 RATERFSGRVVAIKSIRKDKIKDEQDMVHIRREIEIMSSLNHPHIISIYEVFENKDKIVIIMEYASKGEL
 YDYISERRRLSERETRHFFRQIVSAVHYCHKNGVVHRDLKLENILLDDNCNIKIADFGLSNLYQKDKFLQ
 TFCGSPLYASPEIVNGRPPYRGPEVDSWALGVLLYTLVYGTMPFDGFDHKNLIRQISSGEYREPTQPSDAR
 GLIRWMLMVNPDRRATIEDIANHWWVNWGYKSSVCDALHDSESPLLARIIDWHHRSTGLQADTEAKMK
 GLAKPTTSEVMLERQSLKSKKENDFAQSGQDAVPESPSKLSKRPKGILKKRSNSEHRSHSTGFIEGV
 VGPALPSTFKMEQDLCRTGVLLPSSPEAEVPGKLSPKQSATMPKKGILKKTQQRESGYSSPERSESSEL
 LDSNDVMGSSIPSPDPARVTSLSLSCRRKGIKHKSSKYSAGTMDPALVSPEMPTLESLEPGVPAEG
 LRSYSRPSVSISSDVLSSDFDLDLQENRPARQIRSCVSAENFLQIQDFEGLQNRPRPQYLKRYRN
 RLADSSFSLLTMDDDVTQYKQALEICSKLN

TRTRPLE - GFP Tag - V

Restriction Sites:

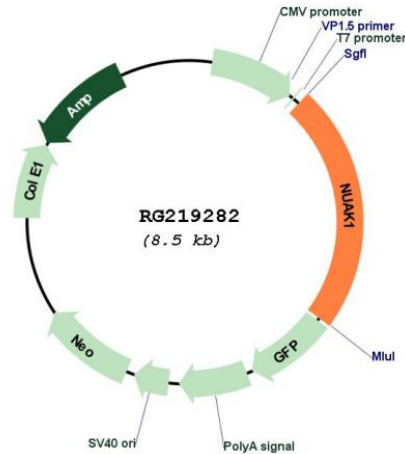
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_014840

ORF Size: 1983 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 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).

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_014840.2](#), [NP_055655.1](#)

RefSeq Size:	6821 bp
RefSeq ORF:	1986 bp
Locus ID:	9891
UniProt ID:	O60285
Cytogenetics:	12q23.3
Domains:	ppkinase, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase
Gene Summary:	<p>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]</p>