

Product datasheet for **KN219282**

ARK5 (NUAK1) Human Gene Knockout Kit (CRISPR)

Product data:

Product Type: Knockout Kits (CRISPR)
Format: 2 gRNA vectors, 1 GFP-puro donor, 1 scramble control
Donor DNA: GFP-puro
Symbol: ARK5
Locus ID: 9891
Components: **KN219282G1**, ARK5 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CGGGGGACCGCCCCGACTTG
KN219282G2, ARK5 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GTCCCCCGCCACAGGCGCGG
KN219282D, donor DNA containing left and right homologous arms and GFP-puro functional cassette.

Homologous arm and GFP-puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **GFP-puro in green**; **Right arm in violet**

```
AAGGCGAGTT ACATGATCCC CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC
AGAAGTAAGT TGGCCGAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG
ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA GCAGAATTTT AAAAGTGCTC
ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCGET GTTGAGATCC AGTTTCGATGT
AACCCACTCG TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTACCACAG GTTTCTGGGT GAGCAAAAAC
AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT
TTTCAATATT ATTGAAGCAT TTATCAGGGT TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA
AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG AAACCATTAT
TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG CCCTTTCGGG TCGCGCGTTT CGGTGATGAC
GGTAAAACC TCTGACACAT GCAGCTCCCG TTGACGGTCA CAGCTTGCTT GTAAGCGGAT GCCGGGAGCA
GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA
GCAGATTGTA CTGAGAGTGC ACCATAAAAT TGTAACGTT AATATTTTGT TAAAATTTCG GTTAAATTTT
TGTTAAATCA GCTCATTTTT TAACCAATAG GCCGAAATCG GCAAAATCCC TTATAATCA AAAGAATAGC
CCGAGATAGG GTTGAGTGTT GTTCCAGTTT GGAACAAGAG TCCACTATTA AAGAACGTGG ACTCCAACGT
CAAAGGGCGA AAAACCGTCT ATCAGGGCGA TGGCCCACTA CGTGAACCAT CACCCAAATC AAGTTTTTTG
GGGTCGAGGT GCCGTAAAGC ACTAAATCGG AACCCCTAAG GGAGCCCCCG ATTTAGAGCT TGACGGGGAA
AGCCGGCGAA CGTGCGGAGA AAGGAAGGGA AGAAAGCGAA AGGAGCGGGC GCTAGGGCGC TGGCAAGTGT
AGCGGTACAG CTGCGCGTAA CCACCACACC CGCCGCGCTT AATGCGCCGC TACAGGGCGC GACTATGGT
TGCTTTGACG TATGCGGTGT GAAATACCGC ACAGATCGCT AAGGAGAAAA TACCGCATCA GGCGCCATTC
GCCATTCAGG CTGCGCAACT GTTGGGAAGG GCGATCGGTG CGGGCCTCTT CGTATTACG CCAGCTGGCG
AAAGGGGAT GTGCTGCAAG GCGATTAAGT TGGGTAACGC CAGGGTTTTC CCAGTACGA CGTTGTAATA
CGACGGCCAG TGAATTGGAG GCTACAGTCA GTGGAGAGGA CTTTCACTGA CTGACTGACT GGAAGACACA
```



[View online »](#)

AACGGTCCCT TCCGCCCCAG CGAGGACAAA GCACTCCTGG CCGCCGCCGC CGCCGCCGCC GTGGCCTACG
CCGCGCCGCA CAAAGGGCGA GTCGCGACAC GCTCCCATCC CCCTCCCAGC TCACGGCCGC CCCGGCCCCG
GGTGGCTGCA GGGAGGTGGG GGAAGCCCTG GCTGCACCGC CCCTCGCTCC CCCTCCCCTG GGGCCGCGCG
AGCGCCGCC CCGCCCCGTC TGCCTGCTCT CCCGGGGAGG GGTGGGGGG CGCGCGCCCC CACATAACAC
TCCCCCTCCT GCGCTGCGAG CCACCTCTC CCCTCCCTCC TGCAAACACC ACCGCTCCCT CTGCCACCGC
CGCCACCTCG CCCGACGCTC CACAGCTCGC CGCGGCCGGG GGGCGGTGCG CGGACCCTGC GCGCCGCGGG
CGCCAGATGT GCAGTCCCCG CCGCCGCCAG TGACCGAGCC GCAGTCCGAG CCGTATCGGG CCGCTCCCT
GATGCTGCGG GGGCGACCTT GAGCGTACAG CGGCTTCCCT CCGTGGGGAC CCCGACATCC CAGCGCTGTG
CCCGGTCTTG CCCTCTGTAG CCCGGCTCGC CCCGCGCTTG GACTACTAGCA TGGAGAGCGA CGAGAGCGGC
CTGCCCGCCA TGGAGATCGA GTGCCGCATC ACCGGCACCC TGAACGGCGT GGAGTTCGAG CTGGTGGGCG
GCGGAGAGGG CACCCCGAG CAGGGCCGCA TGACCAACAA GATGAAGAGC ACCAAAGGCG CCCTGACCTT
CAGCCCCTAC CTGCTGAGCC ACGTGATGGG CTACGGCTTC TACCACTTCG GCACCTACCC CAGCGGCTAC
GAGAACCCCT TCCTGCACGC CATCAACAAC GCGGGCTACA CCAACACCCG CATCGAGAAG TACGAGGACG
GCGGCGTGCT GCACGTGAGC TTCAGCTACC GCTACGAGGC CGGCCGCGTG ATCGGCGACT TCAAGGTGAT
GGGCACCGGC TTCCCCGAGG ACAGCGTGAT CTTACCCGAC AAGATCATCC GCAGCAACGC CACCGTGGAG
CACCTGCACC CCATGGGCGA TAACGATCTG GATGGCAGCT TCACCCGCAC CTTACAGCTG CGCGACGGCG
GCTACTACAG CTCCGTGGTG GACAGCCACA TGCACTTCAA GAGCGCCATC CACCCAGCA TCCTGCAGAA
CGGGGGCCCC ATGTTCCGCT TCCGCCGCGT GGAGGAGGAT CACAGCAACA CCGAGCTGGG CATCGTGGAG
TACCAGCACG CCTTCAAGAC CCCGGATGCA GATGCCGGTG AAGAAAGAGT TTAAGAATTC CGATCATATT
CAATAACCCT TAATATAACT TCGTATAATG TATGCTATAC GAAGTTATTA GGTCTGAAGA GGAGTTTACG
TCCAGCCAAG CTTAGGATCT CGACCTCGAA ATTCTACCGG GTAGGGGAGG CGTTTTTCCC AAGGCAGTCT
GGAGCATGCG CTTTAGCAGC CCCGTGGGC ACTTGGCGCT ACACAAGTGG CCTCTGGCCT CGCACACATT
CCACATCCAC CGGTAGGCGC CAACCGACTC CGTTCTTTGG TGGCCCTTC GCGCCACCTT CTACTCTCC
CCTAGTCAGG AAGTTCCTCC CCGCCCCGCA GCTCGCGTCG TGCAGGACGT GACAAATGGA AGTAGCACGT
CTCACTAGTC TCGTGCAGAT GGACAGCACC GCTGAGCAAT GGAAGCGGGT AGGCCTTTGG GGCAGCGGCC
AATAGCAGCT TTGCTCCTC GCTTTCTGGG CTCAGAGGCT GGAAGGGGT GGGTCCGGGG GCGGGCTCAG
GGGCGGGCTC AGGGGCGGGG CGGGCGCCG AAGTCTCTCC GGAGGCCCGG CATTCTGCAC GCTTCAAAAG
CGCACGTCTG CCGCGCTGTT CTCCTCTTCC TCATCTCCGG GCCTTTCGAC CTGCATCCAT CTAGATCTCG
AGCAGCTGAA GCTTACCATG ACCGAGTACA AGCCACGGT GCGCCTCGCC ACCCGCAGC ACGTCCCCAG
GGCCGTACGC ACCCTCGCG CCGCGTTCGC GACTACCCG GCCACGCGCC ACACCGTCGA TCCGGACCGC
CACATCGAGC GGGTCACCGA GCTGCAAGAA CTCTTCTCA CGCGCGTCGG GCTCGACATC GGCAAGGTGT
GGGTGCGCGA CGACGGCGCC GCGGTGGCGG TCTGACCAC GCCGGAGAGC GTCGAAGCGG GGGCGGTGTT
CGCCGAGATC GGCCCGCGCA TGGCCGAGTT GAGCGGTTCC CGGCTGGCCG CGCAGCAACA GATGGAAGGC
CTCCTGGCGC CGCACCGGCC CAAGGAGCCC GCGTGTTTCC TGGCCACCGT CGGCGTCTCG CCCGACCACC
AGGGCAAGGG TCTGGGCAGC GCCGTCGTGC TCCCCGAGT GGAGGCCGCC GAGCGCGCCG GGGTCCCCGC
CTTCTGGAG ACCTCCGCGC CCCACAACCT CCCCTTCTAC GAGCGGCTCG GCTTACCGT CACCGCCGAC
GTCGAGGTGC CCGAAGGACC GCGCACCTGG TGCATGACCC GCAAGCCCGG TGCCTGACGC CCGCCCCAG
ACCCGCAGCG CCCGACCGAA AGGAGCGCAT GACCCCATGC ATCGATGATA TCAGATCCCC GGGATGCAGA
AATTGATGAT CTATTAACA ATAAAGATGT CCACTAAAAT GGAAGTTTTT CCTGTCATC TTTGTTAAGA
AGGGTGAGAA CAGAGTACCT ACATTTTGAA TGAAGGATT GGAGCTACGG GGGTGGGGT GGGGTGGGAT
TAGATAAATG CCTGCTCTTT ACTGAAGGCT CTTTACTATT GCTTTATGAT AATGTTTCAT AGTTGGATAT
CATAATTTAA ACAAGCAAAA CCAAATTAAG GGCCAGCTCA TTCCTCCAC TCATGATCTA TAGATCTATA
GATCTCTCGT GGGATCATTG TTTTCTCTT GATTCCCACT TTGTGTTTCT AAGTACTGTG GTTTCCAAAT
GTGTCACTTT CATAGCCTGA AGAACGAGAT CAGCAGCTC TGTTCCACAT ACACTTCATT CTCAGTATTG
TTTTGCCAAG TTCTAATTCC ATCAGAAGCT GGTCGAGATC CGGAACCCTT AATATAACTT CGTATAATGT
ATGCTATACG AAGTTATTAG GTCCTCGAA GAGGTTCACT AGGCGCGCCG **CACA**ACTTGA **AGC**ACCCTA
CGAGCTGCAG **GAG**ACCCTGG **GCAA**AGGCAC **CTAC**GGCAA **GTA**AGCGGG **CCAC**CGAGAG **GTTT**CTGGC
CGAGTGGTGA **GTGG**GCAAT **CCTG**AGGGT **GCGG**GGGCG **CTGG**TGGAC **GCGG**CCGGG **ACTG**AGGGCG
TGCGAGGGG **GGT**CTGTG **GCC**TGGGG **TCT**TTGACA **GAG**AGGGGG **TCAT**TGGGAA **GCCC**CGAGAC
AGACCTCTCA **CTCT**TTCTCC **AGCA**CCCCG **GACT**CAGGG **TGT**CTCTGTC **CTGA**AACT **TGTT**ACATCC
TGTCGCACA **TATTT**ATTT **TATTT**TTGG **TTT**TTTTTA **AAA**TTTAAT **CCTA**GCAGCA **AAG**GAATGT
TTAGATTTG **AAAC**ACTTTG **CAGC**GTTGG **ACGG**CCGGG **TCT**CTCTCC **TCGC**AGGCAC **TCAT**TTAGAC

CATGCCCGA AACGTCTTAT TTCCACAAC TCCAAAAGAA CCACATTCCC AGCTAGGAGC TAGCCCCTCA
 AGTCCGGTGT TTTGTAGGTG TCCCTACCCC CTTCCACCCA TCTGCCCGCA GCTCCTTGCT CTGCATCCTC
 CCACTCAGAC TCTGCATCGA AACCAAGTCTT CACTGACTGA CTGACTGGAA AGAGGAAGGG CTGGAAGAGG
 AAGGAGCTTG GCGTAATCAT GGTCATAGCT GTTTCCTGTG TGAAATTGTT ATCCGCTCAC AATTCCACAC
 AACATACGAG CCGGAAGCAT AAAGTGTAAA GCCTGGGGTG CTAATGAGT GAGCTAACTC ACATTAATTG
 CGTTGCGCTC ACTGCCCGCT TTCCAGTCGG GAAACCTGTC GTGCCAGCTG CATTAAATGAA TCGGCCAACG
 CGCGGGGAGA GCGGTTTTGC GTATTGGGCG CTCTCCGCT TCCTCGCTCA CTGACTCGCT GCGCTCGGTC
 GTTCGGCTGC GCGGAGCGGT ATCAGCTCAC TCAAAGGCGG TAATACGGTT ATCCACAGAA TCAGGGGATA
 ACGCAGGAAA GAACATGTGA GCAAAAAGCC AGCAAAAAGC CAGGAACCGT AAAAAAGCCG CGTTGCTGGC
 GTTTTTCCAT AGGCTCCGCC CCCCTGACGA GCATCACAAA AATCGACGCT CAAGTCAGAG GTGGCGAAAC
 CCGACAGGAC TATAAGATA CCAGGCGTTT CCCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC
 TGCCGCTTAC CGGATACCTG TCCGCCTTTC TCCCTTCGGG AAGCGTGGCG CTTTCTCATA GCTCACGCTG
 TAGGTATCTC AGTTCGGTGT AGGTCGTTG CTCCAAGCTG GGCTGTGTGC ACGAACCCCG CGTTCAGCCC
 GACCGCTGCG CTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGTAAG ACACGACTTA TCGCCACTGG
 CAGCAGCCAC TGTAACAGG ATTAGCAGAG CGAGGTATGT AGGCGGTGCT ACAGAGTTCT TGAAGTGGTG
 GCCTAACTAC GGCTACACTA GAAGAACAGT ATTTGGTATC TGCGCTCTGC TGAAGCCAGT TACCTTCGGA
 AAAAGAGTTG GTAGCTCTTG ATCCGGCAAA CAAACCACCG CTGGTAGCGG TGGTTTTTTT GTTTGCAAGC
 AGCAGATTAC GCGCAGAAA AAAGGATCTC AAGAAGATCC TTTGATCTTT TCTACGGGGT CTGACGCTCA
 GTGGAACGAA AACTCACGTT AAGGGATTTT GGTCATGAGA TTATCAAAAA GGATCTTCAC CTAGATCCTT
 TAAATTTAAA AATGAAGTTT TAAATCAATC TAAAGTATAT ATGAGTAAAC TTGGTCTGAC AGTTACCAAT
 GCTTAATCAG TGAGGCACCT ATCTCAGCGA TCTGTCTATT TCGTTCATCC ATAGTTGCCT GACTCCCCGT
 CGTGTAGATA ACTACGATAC GGGAGGGCTT ACCATCTGGC CCCAGTGCTG CAATGATACC GCGAGAACCA
 CGCTCACCGG CTCCAGATTT ATCAGCAATA AACCAGCCAG CCGGAAGGGC CGAGCGCAGA AGTGGTCCTG
 CAACTTTATC CGCCTCCATC CAGTCTATTA ATTGTTGCCG GGAAGCTAGA GTAAGTAGTT CGCCAGTTAA
 TAGTTTGCGC AACGTTGTTG CCATTGCTAC AGGCATCGTG GTGTCACGCT CGTCGTTTGG TATGGCTTCA
 TTCAGCTCCG GTTCCCAACG ATC

GE100003, scramble sequence in pCas-Guide vector

Disclaimer:

These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

RefSeq:

[NM_014840](#)

UniProt ID:

[O60285](#)

Synonyms:

ARK5

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]

Product images:
