

## Product datasheet for **KN209151**

### Dystrophia myotonica protein kinase (DMPK) 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:	Dystrophia myotonica protein kinase
Locus ID:	1760
Components:	<p><b>KN209151G1</b>, Dystrophia myotonica protein kinase gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: ACCTTACACGGTGTATGT</p> <p><b>KN209151G2</b>, Dystrophia myotonica protein kinase gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: CTGCCTCTCAGCTTCACCT</p> <p><b>KN209151D</b>, donor DNA containing left and right homologous arms and GFP-puro functional cassette.</p>

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 TGGCCGCAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTG TGAGAATAGT GTATGCCGGC
ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA GCAGAACTTT AAAAGTGCTC
ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCGCT GTTGAGATCC AGTTCGATGT
AACCCACTCG TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTTCTGGGT GAGCAAAAAC
AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT
TTTCAATATT ATTGAAGCAT TTATCAGGTG TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA
AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG AAACCATTAT
TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG CCCTTTCGGG TCGCGCGTTT CGGTGATGAC
GGTGAAGAAC TCTGACACAT GCAGCTCCCG TTGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA
GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA
GCAGATTGTA CTGAGAGTGC ACCATAAAAT TGTAACGTTT AATATTTTGT TAAAATTCGC GTTAAATTTT
TGTTAAATCA GCTCATTTTT TAACCAATAG GCCGAAATCG GCAAAATCCC TTATAATCA AAAGAAATAGC
CCGAGATAGG GTTGAGTGTT GTTCCAGTTT GGAACAAGAG TCCACTATTA AAGAACGTGG ACTCCAACGT
CAAAGGGCGA AAAACCGTCT ATCAGGGCGA TGGCCCACTA CGTGAACCAT CACCCAAATC AAGTTTTTTG
GGGTCGAGGT GCCGTAAAGC ACTAAATCGG AACCTAAAG GGAGCCCCCG ATTTAGAGCT TGACGGGGAA
AGCCGGCGAA CGTGCGGAGA AAGGAAGGGA AGAAAGCGAA AGGAGCGGGC GCTAGGGCGC TGGCAAGTGT
AGCGGTCACG CTGCGCGTAA CCACCACACC CGCCGCGCTT AATGCGCCGC TACAGGGCGC GACTATGGT
TGCTTTGACG TATGCGGTGT GAAATACCGC ACAGATGCGT AAGGAGAAAA TACCGCATCA GCGCCATTC
GCCATTCAGG CTGCGCAACT GTTGGGAAGG GCGATCGGTG CGGGCTCTT CGCTATTACG CCAGCTGGCG
AAAGGGGGAT GTGCTGCAAG GCGATTAAAG TGGGTAACGC CAGGGTTTTC CCAGTCACGA CGTTGTAAAA
CGACGGCCAG TGAATTGGAG GCTACAGTCA GTGGAGAGGA CTTTCACAGG CTGTCGCCGT GCTCATTTGA
  
```



[View online »](#)

TAAGTCCCG	TTATTCATGC	GACACGCCTC	CACTTCTTCC	ACCCCCGGGA	GTCCAGGCCT	CCCTGTCCCC
ACAGTCCCTG	AGCCACAAGC	CTCCACCCCA	GCTGGTCCCC	CACCCAGGCT	GCCCAGTTTA	ACATTCCTAG
TCATAGGACC	TTGACTTCTG	AGAGGCCTGA	TTGTCATCTG	TAAATAAGGG	GTAGGACTAA	AGCACTCCTC
CTGGAGGACT	GAGAGATGGG	CTGGACCGGA	GCACTTGAGT	CTGGGATATG	TGACCATGCT	ACCTTTGTCT
CCCTGTCTCG	TTCCTTCCCC	CAGCCCCAAA	TCCAGGGTTT	TCCAAAGTGT	GGTTCAGAA	CCACCTGCAT
CTGAATCTAG	AGGTACTGGA	TACAACCCCA	CGTCTGGGCC	GTTACCCAGG	ACATTCTACA	TGAGAACGTG
GGGGTGGGGC	CCTGGCTGCA	CCTGAAGTGT	CACCTGGAGT	CAGGGTGGA	GGTGGAAGAA	CTGGGTCTTA
TTTCCTTCTC	CCCTTGTTC	TTAGGGTCTG	TCCTTCTGCA	GACTCCGTTA	CCCCACCCTA	ACCATCCTGC
ACACCCCTTG	AGCCCTCTGG	GCCAATGCCC	TGTCCCACAA	AGGGCTTCTC	AGGCATCTCA	CCTCTACTAG
CATGGAGAGC	GACGAGAGCG	GCCTGCCCGC	CATGGAGATC	GAGTGCCGCA	TCACCGGCAC	CCTGAACGGC
GTGGAGTTTC	AGCTGGTGGG	CGGCGGAGAG	GGCACCCCGG	AGCAGGGCCG	CATGACCAAC	AAGATGAAGA
GCACCAAAGG	CGCCCTGACC	TTCAGCCCTT	ACCTGCTGAG	CCACGTGATG	GGCTACGGCT	TCTACCACTT
CGGCACCTAC	CCCAGCGGCT	ACGAGAACCC	CTTCCTGCAC	GCCATCAACA	ACGGCGGCTA	CACCAACACC
CGCATCGAGA	AGTACGAGGA	CGGCGGCGTG	CTGCACGTGA	GCTTCAGCTA	CCGCTACGAG	GCCGGCCGCG
TGATCGGCGA	CTCAAGGTG	ATGGGCACCG	GCTTCCCGGA	GGACAGCGTG	ATCTTACCCG	ACAAGATCAT
CCGCAGCAAC	GCCACCGTGG	AGCACCTGCA	CCCCATGGGC	GATAACGATC	TGGATGGCAG	CTTCACCCGC
ACCTTCAGCC	TGCGCGACGG	CGGCTACTAC	AGCTCCGTGG	TGGACAGCCA	CATGCACTTC	AAGAGCGCCA
TCCACCCAG	CATCCTGCAG	AACGGGGGCC	CCATGTTTCG	CTTCCGCCGC	GTGGAGGAGG	ATCACAGCAA
CACCGAGCTG	GGCATCGTGG	AGTACCAGCA	CGCCTTCAAG	ACCCCGGATG	CAGATGCCGG	TGAAGAAAGA
GTTTAAGAAT	TCCGATCATA	TTCAATAACC	CTTAATATAA	CTTCGTATAA	TGTATGCTAT	ACGAAGTTAT
TAGGTCTGAA	GAGGAGTTTA	CGTCCAGCCA	AGCTTAGGAT	CTCGACCTCG	AAATTCTACC	GGGTAGGGGA
GGCGCTTTTC	CCAAGGCAGT	CTGGAGCATG	CGCTTTAGCA	GCCCCGCTGG	GCACTTGGCG	CTACACAAGT
GGCCTCTGGC	CTCGACACAA	TTCCACATCC	ACCGGTAGGC	GCCAACCGAC	TCCGTCTTTT	GGTGGCCCTT
TCGCGCCACC	TTCTACTCCT	CCCTAGTCCA	GGAAAGTTCCC	CCCCGCCCGC	CAGCTCGCGT	CGTGACGGAC
GTGACAAATG	GAAGTAGCAC	GTCTCACTAG	TCTCGTGCA	ATGGACAGCA	CCGCTGAGCA	ATGGAAGCGG
GTAGGCCTTT	GGGCAGCGG	CCAATAGCAG	CTTTGCTCCT	TCGCTTTCTG	GGCTCAGAGG	CTGGGAAGGG
GTGGGTCCGG	GGGCGGGCTC	AGGGGCGGGC	TCAGGGGCGG	GGCGGGCGCC	CGAAGTCTCT	CCGAGGCCCC
GGCATTCTGC	ACGCTTCAAA	AGCGCACGTC	TGCCGCGCTG	TTCTCCTCTT	CCTCATCTCC	GGGCTTTTCG
ACCTGCATCC	ATCTAGATCT	CGAGCAGCTG	AAGCTTACCA	TGACCGAGTA	CAAGCCCACG	GTGCGCCTCG
CCACCCGCGA	CGACGTCCCC	AGGGCCGTAC	GCACCCTCGC	CGCCGCGTTC	GCCGACTACC	CCGCCACGCG
CCACACCGTC	GATCCGGACC	GCCACATCGA	GCGGGTCAAC	GAGCTGCAAG	AACTCTTCTT	CACGCGCGTC
GGGCTCGACA	TCGGCAAGGT	GTGGGTGCGG	GACGACGGCG	CCGCGGTGGC	GGTCTGGACC	ACGCCCGAGA
GCGTCGAAGC	GGGGGCGGTG	TTGCGCGAGA	TCGGCCCGCG	CATGGCCGAG	TTGAGCGGTT	CCCGGCTGGC
CGCGCAGCAA	CAGATGGAAG	GCCTCCTGGC	GCCGCACCGG	CCCAAGGAGC	CCGCGTGTTT	CCTGGCCACC
GTGCGGCTCT	CGCCCGACCA	CCAGGGCAAG	GGTCTGGGCA	GCGCCGTCGT	GCTCCCCGGA	GTGGAGGCGG
CCGAGCGCGC	CGGGGTGCCC	GCCTTCTTGG	AGACCTCCGC	GCCCCACAAC	CTCCCCCTCT	ACGAGCGGCT
CGGCTTCAAC	GTCACCGCCG	ACGTCGAGGT	GCCCCAAGGA	CCGCGCACCT	GGTGCATGAC	CCGCAAGCCC
GGTGCCTGAC	GCCCCGCCCA	CGACCCGACG	CGCCCGACCG	AAAGGAGCGC	ACGACCCCAT	GCATCGATGA
TATCAGATCC	CCGGGATGCA	GAAATTGATG	ATCTATTAAA	CAATAAAGAT	GTCCACTAAA	ATGGAAGTTT
TTCTGTCTAT	ACTTTGTAA	GAAGGGTGAG	AACAGAGTAC	CTACATTTTG	AATGGAAGGA	TTGGAGCTAC
GGGGGTGGGG	GTGGGGTGGG	ATTAGATAAA	TGCCTGCTCT	TTACTGAAGG	CTCTTTACTA	TTGCTTTATG
ATAATGTTTC	ATAGTTGGAT	ATCATAATTT	AAACAAGCAA	AACCAAATTA	AGGGCCAGCT	CATTCTCTCC
ACTCATGATC	TATAGATCTA	TAGATCTCTC	GTGGGATCAT	TGTTTTTCTC	TTGATTCCCA	CTTTGTGGTT
CTAAGTACTG	TGGTTTCCAA	ATGTGTCACT	TTCATAGCCT	GAAGAACGAG	ATCAGCAGCC	TCTGTTCCAC
ATACACTTCA	TTCTCAGTAT	TGTTTTGCCA	AGTTCTAATT	CCATCAGAAG	CTGGTCGAGA	TCCGGAACCC
TTAATATAAC	TTCGTATAAT	GTATGCTATA	CGAAGTTATT	AGGTCCCTCG	AAGAGGTTCA	CTAGGCGCGC
CGACAGAGGG	TGGGGCTTTC	CCCCTTGTCT	CCAGTGCCCT	TTCTGGTGAC	CCTCGGTTCT	TTTCCCCCAC
CACCCCCCCA	GCGGAGCCCA	TCGTGGTGAG	GCTTAAGGAG	GTCCGACTGC	AGAGGGACGA	CTTCGAGATT
CTGAAGGTGA	TCGGACGCGG	GGCGTTCAGC	GAGGTAAGCC	GAACCGGGCG	GGAGCCTGAC	TTGACTCGTG
GTGGGCGGGG	CATAGGGGTT	GGGGCGGGGC	CTTAGAAATT	GATGAATGAC	CGAGCCTTAG	AACCTAGGGC
TGGGTGAGG	GCGGGGCTTG	GGACCAATGG	GCGTGGTGTC	GCAAGTGGGG	CGGGGCCACG	GCTGGGTGCA
GAAGCGGGTG	GAGTTGGGTC	TGGGCGAGCC	CTTTTGTTC	CCCCCGTCT	CCACTCTGTC	TCATATCTC

GACCTCAGGT AGCGGTAGTG AAGATGAAGC AGACGGGCCA GGTGTATGCC ATGAAGATCA TGAACAAGTG  
 GGACATGCTG AAGAGGGGCG AGGTGAGGGG CTGGGCGGAC GTGGGGGGCT TTGAGGATCC GCGCCCCGTC  
 TCCGGCTGCA GCTCCTCCGG GTGCCCTGCA GGTGTCGTGC TTCACTCTCG CCGGTTGGAC TTTAGATCAG  
 AAGGGATCTT GCTGCCGCCC GAAAGAGGAA GGGCTGGAAG AGGAAGGAGC TTGGCGTAAT CATGGTCATA  
 GCTGTTTCTT GTGTGAAATT GTTATCCGCT CACAATTCCA CACAACATAC GAGCCGGAAG CATAAAGTGT  
 AAAGCCTGGG GTGCCTAATG AGTGAGCTAA CTCACATTAA TTGCGTTGCG CTCACTGCCC GCTTTCCAGT  
 CGGGAAACCT GTCGTGCCAG CTGCATTAAT GAATCGGCCA ACGCGCGGGG AGAGGCGGTT TGCCTATTGG  
 GCGCTCTTCC GCTTCTCGC TCACTGACTC GCTGCGCTCG GTCGTTCCGG TCGGCGGAGC GGTATCAGCT  
 CACTCAAAGG CGGTAATACG GTTATCCACA GAATCAGGGG ATAACGCAGG AAAGAACATG TGAGCAAAAG  
 GCCAGCAAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT GGCCTTTTTC CATAGGCTCC GCCCCCCTGA  
 CGAGCATCAC AAAAATCGAC GCTCAAGTCA GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG  
 TTTCCCCCTG GAAGCTCCCT CGTGCGCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC CTGTCCGCTT  
 TTCTCCCTTC GGAAGCGTG GCGCTTTCTC ATAGCTCAGC CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT  
 TCGCTCCAAG CTGGGCTGTG TGCACGAACC CCCCCTTCAG CCCGACCGCT GCGCCTTATC CGGTAAGTAT  
 CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATCGCCAC TGGCAGCAGC CACTGGAAC AGGATTAGCA  
 GAGCGAGGTA TGTAGGCGGT GCTACAGAGT TCTTGAAGTG GTGGCCTAAC TACGGCTACA CTAGAAGAAC  
 AGTATTTGGT ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG TTGGTAGCTC TTGATCCGGC  
 AAACAAACCA CCGCTGGTAG CCGTGGTTTT TTTGTTTGCA AGCAGCAGAT TACGCGCAGA AAAAAAGGAT  
 CTCAAGAAGA TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGAAGC GAAAACTCAC GTTAAGGGAT  
 TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTAAAT AAATAAGG TTTTAAATCA  
 ATCTAAAGTA TATATGAGTA AACTTGGTCT GACAGTTACC AATGCTTAAT CAGTGAGGCA CCTATCTCAG  
 CGATCTGTCT ATTTCGTTCA TCCATAGTTG CCTGACTCCC CGTCGTGTAG ATAACACGA TACGGGAGGG  
 CTTACCATCT GGCCCCAGTG CTGCAATGAT ACCGCGAGAA CCACGCTCAC CGGCTCCAGA TTTATCAGCA  
 ATAAACACGC CAGCCGGAAG GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCTCC ATCCAGTCTA  
 TTAATTGTTG CCGGGAAGCT AGAGTAAGTA GTTCGCCAGT TAATAGTTTG CGCAACGTTG TTGCCATTGC  
 TACAGGCATC GTGGTGTAC GCTCGTCGTT TGGTATGGCT TCATTCAGCT CCGGTTCCCA ACGATC

**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\\_001081560](#), [NM\\_001081562](#), [NM\\_001081563](#), [NM\\_001288764](#), [NM\\_001288765](#),  
[NM\\_001288766](#), [NM\\_004409](#)

**UniProt ID:**

[Q09013](#)

**Synonyms:**

DM; DM1; DM1PK; DMK; MDPK; MT-PK

**Summary:**

The protein encoded by this gene is a serine-threonine kinase that is closely related to other kinases that interact with members of the Rho family of small GTPases. Substrates for this enzyme include myogenin, the beta-subunit of the L-type calcium channels, and phospholemman. The 3' untranslated region of this gene contains 5-38 copies of a CTG trinucleotide repeat. Expansion of this unstable motif to 50-5,000 copies causes myotonic dystrophy type I, which increases in severity with increasing repeat element copy number. Repeat expansion is associated with condensation of local chromatin structure that disrupts the expression of genes in this region. Several alternatively spliced transcript variants of this gene have been described, but the full-length nature of some of these variants has not been determined. [provided by RefSeq, Jul 2016]

## Product images:

