

## Product datasheet for **RG209151**

### Dystrophia myotonica protein kinase (DMPK) (NM\_004409) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Dystrophia myotonica protein kinase (DMPK) (NM_004409) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Dystrophia myotonica protein kinase
Synonyms:	DM; DM1; DM1PK; DMK; MDPK; MT-PK
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG209151 representing NM\_004409  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCAGCCGAGGTGCGGCTGAGGCGGCTCCAGCAGCTGGTGTGGACCCGGGCTTCTGGGGCTGGAGC  
 CCCTGCTCGACCTTCTCCTGGGCGTCCACCAGGAGCTGGGCGCCTCCGAAGTGGCCAGGACAAGTACGT  
 GGCCGACTTCTTGCAGTGGGCGGAGCCATCGTGGTGAGGCTTAAGGAGGTCCGACTGCAGAGGGACGAC  
 TTCGAGATTCTGAAGGTGATCGGACCGGGGCGTTTCCAGCGAGGTAGCGGTAGTGAAGATGAAGCAGACGG  
 GCCAGGTGTATGCCATGAAGATCATGAACAAGTGGGACATGCTGAAGAGGGGCGAGGTGTCGTGCTTCCG  
 TGAGGAGAGGGACGTGTTGGTGAATGGGACCGGCGGTGGATCACGCAGCTGCACCTTCGCTTCCAGGAT  
 GAGAACTACCTGTACCTGGTATGGAGTATTACGTGGGCGGGACCTGCTGACACTGCTGAGCAAGTTTG  
 GGGAGCGGATCCGGCCGAGATGGCGCGTCTACCTGGCGGAGATTGTCATGGCCATAGACTCGGTGCA  
 CCGGCTTGGCTAGTGCACAGGGACATCAAACCCGACAACATCCTGCTGGACCGTGTGGCCACATCCGC  
 CTGGCCGACTTCCGCTCTTGCCTCAAGCTGCGGGCAGATGGAACGGTGGCGTGGTGGCTGTGGGCA  
 CCCCAGACTACCTGTCCCCGAGATCCTGCAGGCTGTGGGCGGTGGGCTGGGACAGGCAGCTACGGGCC  
 CGAGTGTGACTGGTGGGCGCTGGGTGATTTCGCCTATGAAATGTTCTATGGGCAGACGCCCTTCTACGCG  
 GATTCCACGGCGGAGACCTATGGCAAGATCGTCCACTACAAGGAGCACCTCTCTGCGCGTGGTGGACG  
 AAGGGTCCCTGAGGAGGCTCGAGACTTCAATCAGCGTGTGTGTCCCCGGAGACACGGCTGGGCCG  
 GGTGGAGCAGGCGACTCCGGACACATCCCTTCTTTGGCCGACTGGGATGGTCTCCGGGACAGC  
 GTGCCCCCTTTACACCGGATTTCAAGGTGCCACCGACACATGCAACTTCGACTTGGTGGAGGACGGC  
 TCACTGCCATGGTGAGCGGGGCGGGGAGACACTGTCGGACATTGCGGAAGGTGCGCCGCTAGGGTCCA  
 CCTGCCTTTTGTGGCTACTCCTACTCCTGCATGGCCCTCAGGGACAGTGAAGTCCCAGGCCACACCC  
 ATGGAAGTGGAGCCGAGCAGCTGCTTGAAGCACACGTGCAAGCGCCAGCCTGGAGCCCTCGGTGTCCC  
 CACAGGATGAAACAGCTGAAGTGGCAGTCCAGCGGCTGTCCCTGCGGCAGAGGCTGAGGCCGAGGTGAC  
 GCTGCGGGAGCTCCAGGAAGCCCTGGAGGAGGAGGTGCTCACCCGGCAGAGCCTGAGCCGGGAGATGGAG  
 GCCATCCGCACGGACAACCAGAACTTCGCCAGTCAACTACGCGAGGCAGAGGCTCGGAACCGGGACCTAG  
 AGGCACACGTCCGGCAGTTCAGGAGCGGATGGAGTGTGTCAGGCAGAGGGAGCCACAGCTGTACGCGG  
 GGTCCCAGTCCCAGGGCCAGGATCCACCTTCCCATCTAGATGGCCCCCGCCGTTGGTGTGGGCCAG  
 TGCCCGCTGGTGGGGCCAGGCCCATGCACCGCCGCCACCTGCTGCTCCCTGCCAGGCTCCCTAGGCTG  
 GCCTATCGGAGGCGCTTCCCTGCTCCTGTTCCGCGTTGTTCTGTCTCGTCCCGCCGCTGGGCTGCAT  
 TGGGTTGGTGGCCACGCGGCCAACTACCGCAGTCTGGCGCCGCCAGGAGCCGCCCGCTCCC

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG209151 representing NM\_004409  
 Red=Cloning site Green=Tags(s)

MSAEVRLRRLQQLVLDPGFGLGLEPLDLLLVHQLGASELAQDKYVADFLQWAEPIVVRLKEVRLQRDD  
 FEILKVIIRGAFSEVAVVKMKQTGQVYAMKIMNKWMLKRGEVSCFREERDVLVNGDRRWITQLHFAFQD  
 ENYLVLVMEYYVGGDLLTLLSKFGERIPAEMARFYLAIEVMAIDSVHRLGYVHRDIKPDNILLDRCGHIR  
 LADFGSCLKLADGTVRSLVAVGTPDYLSPEILQAVGGGPGTGSYGPECDWWALGVFAYEMFYGQTPFYA  
 DSTAETYGKIVHYKEHLSLPLVDEGVPEEARDFIQRLCPPETRLGRGGAGDFRTHPFFGLDWDGLRDS  
 VPPFTPDFEGATDTCNFDLVEDGLTAMVSGGGETLSDIREGAPLVHLPFVGYSYSCMALRDSEVPGPTP  
 MELEAEQLLEPHVQAPSLPSVSPQDETAEVAVPAAVPAEAEAEVTLRELQEALEEEVLTQSLSREME  
 AIRDNDQNFASQLREAEARNRDLAEHVRQLQERMELLQAEGATAVTGVPSPRATDPPSHLDGPPAVAVGQ  
 CPLVGPMPHRRHLLPARVPRPGLSEALSLLLFAVLSRAAALGCIQLVAHAGQLTAVWRRPGAARAP

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_004409

**ORF Size:** 1887 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\\_004409.5](#)

**RefSeq Size:** 2768 bp

**RefSeq ORF:** 1890 bp

**Locus ID:** 1760

**UniProt ID:** [Q09013](#)

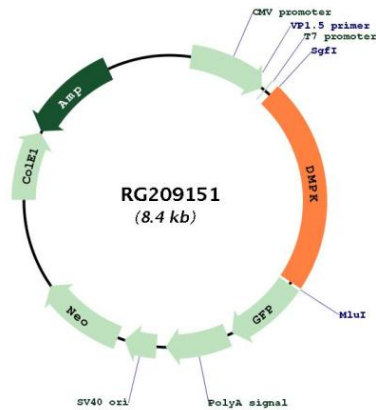
**Cytogenetics:** 19q13.32

**Domains:** pkinase, S\_TK\_X, TyrKc, S\_TKc

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

**Gene 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:**



Circular map for RG209151