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Product datasheet for SC117404

Dystrophia myotonica protein kinase (DMPK) (NM_004409) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Dystrophia myotonica protein kinase (DMPK) (NM_004409) Human Untagged Clone
Tag:	Tag Free
Symbol:	Dystrophia myotonica protein kinase
Synonyms:	DM; DM1; DM1PK; DMK; MDPK; MT-PK
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)

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Fully Sequenced ORF:

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>OriGene ORF sequence for NM_004409 edited
ATGTCAGCCGAGGTGCGGCTGAGGCGGCTCCAGCAGCTGGTGTTGGACCCGGGCTTCCTG
GGGCTGGAGCCCCTGCTCGACCTTCTCCTGGGCGTCCACCAGGAGCTGGGCGCCTCCGAA
CTGGCCCAGGACAAGTACGTGGCCGACTTCTTGCAGTGGGCGGAGCCCATCGTGGTGAGG
CTTAAGGAGGTCCGACTGCAGAGGGACGACTTCGAGATTCTGAAGGTGATCGGACGCGGG
GCGTTCAGCGAGGTAGCGGTAGTGAAGATGAAGCAGACGGGCCAGGTGTATGCCATGAAG
ATCATGAACAAGTGGGACATGCTGAAGAGGGGCGAGGTGTCGTGCTTCCGTGAGGAGAGG
GACGTGTTGGTGAATGGGGACCGGCGGTGGATCACGCAGCTGCACTTCGCCTTCCAGGAT
GAGAACTACCTGTACCTGGTCATGGAGTATTACGTGGGCGGGGACCTGCTGACACTGCTG
AGCAAGTTTGGGGAGCGGATTCCGGCCGAGATGGCGCGCTTCTACCTGGCGGAGATTGTC
ATGGCCATAGACTCGGTGCACCGGCTTGGCTACGTGCACAGGGACATCAAACCCGACAAC
ATCCTGCTGGACCGCTGTGGCCACATCCGCCTGGCCGACTTCGGCTCTTGCCTCAAGCTG
CGGGCAGATGGAACGGTGCGGTCGCTGGTGGCTGTGGGCACCCCAGACTACCTGTCCCCC
GAGATCCTGCAGGCTGTGGGCGGTGGGCCTGGGACAGGCAGCTACGGGCCCGAGTGTGAC
TGGTGGGCGCTGGGTGTATTCGCCTATGAAATGTTCTATGGGCAGACGCCCTTCTACGCG
GATTCCACGGCGGAGACCTATGGCAAGATCGTCCACTACAAGGAGCACCTCTCTCTGCCG
CTGGTGGACGAAGGGGTCCCTGAGGAGGCTCGAGACTTCATTCAGCGGTTGCTGTGTCCC
CCGGAGACACGGCTGGGCCGGGGTGGAGCAGGCGACTTCCGGACACATCCCTTCTTCTTT
GGCCTCGACTGGGATGGTCTCCGGGACAGCGTGCCCCCCTTTACACCGGATTTCGAAGGT
GCCACCGACACATGCAACTTCGACTTGGTGGAGGACGGGCTCACTGCCATGGTGAGCGGG
GGCGGGGAGACACTGTCGGACATTCGGGAAGGTGCGCCGCTAGGGGTCCACCTGCCTTTT
GTGGGCTACTCCTACTCCTGCATGGCCCTCAGGGACAGTGAGGTCCCAGGCCCCACACCC
ATGGAACTGGAGGCCGAGCAGCTGCTTGAGCCACACGTGCAAGCGCCCAGCCTGGAGCCC
TCGGTGTCCCCACAGGATGAAACAGCTGAAGTGGCAGTTCCAGCGGCTGTCCCTGCGGCA
GAGGCTGAGGCCGAGGTGACGCTGCGGGAGCTCCAGGAAGCCCTGGAGGAGGAGGTGCTC
ACCCGGCAGAGCCTGAGCCGGGAGATGGAGGCCATCCGCACGGACAACCAGAACTTCGCC
AGTCAACTACGCGAGGCAGAGGCTCGGAACCGGGACCTAGAGGCACACGTCCGGCAGTTG
CAGGAGCGGATGGAGTTGCTGCAGGCAGAGGGAGCCACAGCTGTCACGGGGGTCCCCAGT
CCCCGGGCCACGGATCCACCTTCCCATATGGCCCCCGGCCGTGGCTGTGGGCCAGTGCC
CGCTGGTGGGGCCAGGCCCCATGCACCGCCGCCACCTGCTGCTCCCTGCCAGGGTCCCTA
GGCCTGGCCTATCGGAGGCGCTTTCCCTGCTCCTGTTCGCCGTTGTTCTGTCTCGTGCCG
CCGCCCTGGGCTGCATTGGGTTGGTGGCCCACGCCGGCCAACTCACCGCAGTCTGGCGCC
GCCCAGGAGCCGCCCGCGCTCCCTGA
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5' Read Nucleotide Sequence:

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>OriGene 5' read for NM_004409 unedited
CAAATTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGGGACAGCCA
GGGACAGGCAGACATGCAGCCAGGGCTCCAGGGCCTGGACAGGGGCTGCCAGGCCCTGTG
ACAGGAGGACCCCGAGCCCCCGGCCCGGGGAGGGGCCATGGTGCTGCCTGTCCAACATGT
CAGCCGAGGTGCGGCTGAGGCGGCTCCAGCAGCTGGTGTTGGACCCGGGCTTCCTGGGGC
TGGAGCCCCTGCTCGACCTTCTCCTGGGCGTCCACCAGGAGCTGGGCGCCTCCGAACTGG
CCCAGGACAAGTACGTGGCCGACTTCTTGCAGTGGGCGGAGCCCATCGTGGTGAGGCTTA
AGGAGGTCCGACTGCAGAGGGACGACTTCGAGATTCTGAAGGTGATCGGACGCGGGGCGT
TCAGCGAGGTAGCGGTAGTGAAGATGAAGCAGACGGGCCAGGTGTATGCCATGAAGATCA
TGAACAAGTGGGACATGCTGAAGAGGGGCGAGGTGTCGTGCTTCCGTGAGGAGAGGGACG
TGTTGGTGAATGGGGACCGGCGGTGGATCACGCAGCTGCACTTCGCCTTCCAGGATGAGA
ACTACCTGTACCTGGTCATGGAGTATTACGTGGGCGGNGACCTGCTGACACTGCTGAGCA
AGTTTGGGGAGCGGATTCCGGCCGAGATGGCGCGCTTCTACCTGGCGGAGATTGTCATGG
CCATAGACTCGGTGCACCGGCTTGGCTACGTGCACAGGGACATCAAACCCGACACATNCT
GCTGGACCGCTGTGGCCACATNCGNCTGGCCGACTTCNGCTCTTGCCTCAAGCTGCNGGC
AGATGGAACCNGTGCNGTCGCTGGNTGGCTGTGGGCACCCCANACTACCCTGTCCCCGAG
ATCCTGCAGCTGTGGNNCNGTGGGCCCTGGACANNGCACTACGGNCCCNNATGTGACTGG
TGGCGCCTGGGNTGTATCGCCTATGAATGTT
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3' Read Nucleotide Sequence:

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>OriGene 3' read for NM_004409 unedited
TATCTATGNNACCGCGGCCGCAATTCTANGATCGATTTTTTTTTTTTTTTTTTTTTTTG
GGCAGAAGGAGGGCCTTTTATTCGCGAGGGTCGGGGGTGGGGGTCCTAGGTGGGGACAGA
CAATAAATACCGAGGAATGTCGGGGTCTCAGTGCATCCAAAACGTGGATTGGGGTTGTTG
GGGGTCCTGTAGCCTGTCAGCGAGTCGGAGGACGAGGTCAATAAATATCCAAACCGCCGA
AGCGGGCGGAGCCGGCTGGGGCTCCGAGAGCAGCATAAGTGAGGAGGGGGGCGCGGGATC
CCCGAAAAAGCGGGTTTGGCAAAAGCAAATTTCCCGAGTAAGCAGGCAGAGATCGCGCCA
GACGCTCCCCAGAGCAGGGCGTCATGCACAAGAAAGCTTTGCACTTTGCGAACCAACCAT
AGGTGGGGGTGCGTGGAGGATGGAACACGGACGGCCCGGCTTGCTGCCTTCCCAGGCCTG
CAGTTTGCCCATCCACGTCAGGGCCTCAGCCTGGCCGAAAGAAAGAAATGGTCTGTGATC
CCCCCAGCAGCAGCAGCAGCATTCCCGGCTACAAGGACCCTTCGAGCCCCGTTCGCCGGC
CGCGGACCCGGCCCCTCCCTCCCCGGCCGCTAGGGGGCGGGCCCGGATCACAGGACTGGA
GCTGGGCGGAGACCCACGCTCGGAGCGGTTGTGAACTGGCAGGCGGTGGGCGCGGCTTCT
GTGCCGTGCCCCGGGCACTCAGTCTCCAACGGGGCCCCCGAGTCGAAGAAGTTCTAGGGT
TCAAGGAACGCGGGCGGCTCCTGGGCGGCGCCAGACTGCGGTGAGTTTCCCCGCGTGGGC
CACACACCAATGGAGCCCAAGCGGCGGGCCGAGAAAAACAACGGGGAACAGGAGCAAGGA
AAGCCCCTCGATAGCCAGGCTTAGGACCCTGCAGGGAGCAACAGGTGC
```

Restriction Sites: NotI-NotI

ACCN: NM_004409

Insert Size: 3000 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).

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_004409.2, NP_004400.4

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]
Transcript Variant: This variant (2) has multiple differences in the presence and absence of exons at its 5' end, compared to variant 1. These differences produce a distinct 5' UTR and cause translation initiation at an alternative start codon, compared to variant 1. The encoded protein (isoform 2, also known as isoform 9) has a distinct N-terminus and is shorter than isoform 1.