

Product datasheet for **RC225676**

PAX6 (NM_001127612) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PAX6 (NM_001127612) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PAX6
Synonyms:	AN; AN1; AN2; ASGD5; D11S812E; FVH1; MGDA; WAGR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC225676 representing NM_001127612
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCAGAACAGTCACAGCGGAGTGAATCAGCTCGGTGGTGTCTTTGTCAACGGGGCGGCCACTGCCGGACT
 CCACCCGGCAGAAGATTGTAGAGCTAGCTCACAGCGGGGCCGGCGTGCACATTTCCCGAATTCGCA
 GGTGTCCAACGGATGTGTGAGTAAAATTCTGGGCAGGTATTACGAGACTGGCTCCATCAGACCCAGGGCA
 ATCGGTGGTAGTAAACCGAGAGTAGCGACTCCAGAAGTTGTAAGCAAAATAGCCAGTATAAGCGGGAGT
 GCCCGTCCATCTTTGCTTGGGAAATCCGAGACAGATTACTGTCCGAGGGGTCTGTACCAACGATAACAT
 ACCAAGCGTGTCAATAAACAGAGTTCTTCGCAACCTGGCTAGCGAAAAGCAACAGATGGCGCAGAC
 GGCATGTATGATAAACTAAGGATGTTGAACGGGCAGACCCGAAGCTGGGGCACCCGCCCTGGTTGGTATC
 CGGGGACTTCGGTGCCAGGGCAACCTACGCAAGATGGCTGCCAGCAACAGGAAGGAGGGGAGAGAATAAC
 CAACTCCATCAGTTCCAACGGAGAAGATTCAGATGAGGCTCAAATGCGACTTCAGCTGAAGCGGAAGCTG
 CAAAGAAATAGAACATCCTTTACCCAAGAGCAAATTTAGGCCCTGGAGAAAGAGTTTGAGAGAACCATT
 ATCCAGATGTGTTTGCCCGAGAAAGACTAGCAGCCAAAATAGATCTACCTGAAGCAAGAATACAGGTATG
 GTTTTCTAATCGAAGGGCCAAAATGGAGAAGAGAAGAAAATGAGGAATCAGAGAAGACAGGCCAGCAAC
 ACACCTAGTCATATTCCTATCAGCAGTAGTTTCAGCACCAGTGTCTACCAACCAATTCACAACCCACCA
 CACCGGTTTCTCCTTCACATCTGGCTCCATGTTGGGCCGAACAGACACAGCCCTCACAACACCTACAG
 CGCTCTGCCGCCTATGCCAGCTTACCATGGCAAATAACCTGCCTATGCAACCCCCAGTCCCCAGCCAG
 ACCTCCTCATACTCCTGCATGCTGCCACCAGCCCTTCGGTGAATGGGCGGAGTTATGATACCTACACCC
 CCCACATATGCAGACACACATGAACAGTCAGCCAATGGGCACCTCGGGCACCACTTCAACAGGACTCAT
 TTCCTCGGTGTGCAGTCCAGTTCAGTTCAAGTTCGGGAAGTGAACCTGATATGTCTCAATACTGGCCAAGA
 TTACAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC225676 representing NM_001127612
 Red=Cloning site Green=Tags(s)

MQNSHSGVNQLGGVFVNGRPLPDSTRQKIVELAHSGARPCDISRILQVSNQVSKILGRYYETGSIRPRA
 IGGSKPRVATPEVVSKIAQYKRECPISFAWEIRDRLLESEGVTNDNIPSVSSINRVLRLNLASEKQMQGAD
 GMYDKLRMLNGQTGSWGTRPGWYPGTSVPGQPTQDGCQQEQQEGGENTNSISSNGEDSDEAQMRLQLKRKL
 QRNRTSFTQEIQIEALEKEFERHYPDFARERLAAKIDLPEARIQVWFSNRRAKWRREEKLRNQRQASN
 TPSHIPISSSSFSTSVYQIPQPTTPVSSFTSGSMLGRTDTALNTYSALPPMPSFTMANNLPMQPPVPSQ
 TSSYSCLPTSPSVNGRSYDITYPPHMQTHMNSQPMGTSMTSTGLISPGVSVPVQVPGSEPDMSQYWPR
 LQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mg4915_e09.zip

Restriction Sites:

SgfI-MluI

Cloning Scheme:


ACCN: NM_001127612

ORF Size: 1266 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_001127612.3](#)

RefSeq Size: 6883 bp

RefSeq ORF: 1269 bp

Locus ID: 5080

UniProt ID: [P26367](#)

Cytogenetics: 11p13

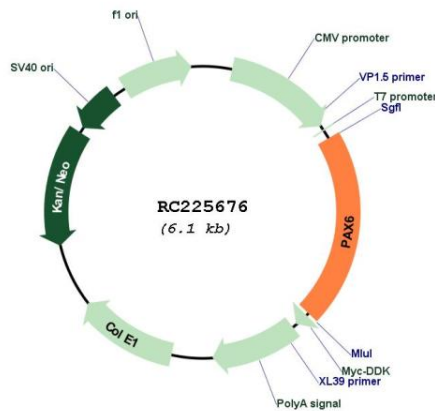
Protein Families: Adult stem cells, Druggable Genome, Embryonic stem cells, Transcription Factors

Protein Pathways: Maturity onset diabetes of the young

MW: 46.7 kDa

Gene Summary: This gene encodes paired box protein Pax-6, one of many human homologs of the *Drosophila melanogaster* gene *prd*. In addition to a conserved paired box domain, a hallmark feature of this gene family, the encoded protein also contains a homeobox domain. Both domains are known to bind DNA and function as regulators of gene transcription. Activity of this protein is key in the development of neural tissues, particularly the eye. This gene is regulated by multiple enhancers located up to hundreds of kilobases distant from this locus. Mutations in this gene or in the enhancer regions can cause ocular disorders such as aniridia and Peter's anomaly. Use of alternate promoters and alternative splicing results in multiple transcript variants encoding different isoforms. Interestingly, inclusion of a particular alternate coding exon has been shown to increase the length of the paired box domain and alter its DNA binding specificity. Consequently, isoforms that carry the shorter paired box domain regulate a different set of genes compared to the isoforms carrying the longer paired box domain. [provided by RefSeq, Mar 2019]

Product images:



Circular map for RC225676