

## Product datasheet for **RG203815**

### **PAX6 (NM\_000280) Human Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PAX6 (NM_000280) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PAX6
Synonyms:	AN; AN1; AN2; ASGD5; D11S812E; FVH1; MGDA; WAGR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG203815 representing NM_000280 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGCAGAACAGTCACAGCGGAGTGAATCAGCTCGGTGGTGTCTTTGTCAACGGGCGGCCACTGCCGGACT  
CCACCCGGCAGAAGATTGTAGAGCTAGCTCACAGCGGGGCCCGGCGTGCACATTTCCCGAATTCTGCA  
GGTGTCCAACGGATGTGTGAGTAAAATTCTGGGCAGGTATTACGAGACTGGCTCCATCAGACCCAGGGCA  
ATCGGTGGTAGTAAACCGAGAGTAGCGACTCCAGAAGTTGTAAGCAAAAATAGCCAGTATAAGCGGGAGT  
GCCCGTCCATCTTTGCTTGGGAAATCCGAGACAGATTACTGTCCGAGGGGTCTGTACCAACGATAACAT  
ACCAAGCGTGTCAATAAACAGAGTTCTTCGCAACCTGGCTAGCGAAAAGCAACAGATGGGCGCAGAC  
GGCATGTATGATAAACTAAGGATGTTGAACGGGCAGACCGGAAGCTGGGGCACCCGCCCTGGTTGGTATC  
CGGGGACTTCGGTGCCAGGGCAACCTACGCAAGATGGCTGCCAGCAACAGGAAGGAGGGGAGAGAATAC  
CAACTCCATCAGTTCCAACGGAGAAGATTCAGATGAGGCTCAAATGCGACTTCAGCTGAAGCGGAAGCTG  
CAAAGAAATAGAATCCTTTACCCAAGAGCAAATTGAGGCCCTGGAGAAAGAGTTTGAGAGAACCATT  
ATCCAGATGTGTTGCCCGAGAAAGACTAGCAGCCAAAATAGATCTACCTGAAGCAAGAATACAGGTATG  
GTTTTCTAATCGAAGGGCCAAAATGGAGAAGAGAAGAAAACTGAGGAATCAGAGAAGACAGGCCAGCAAC  
ACACCTAGTCATATTCATCAGCAGTAGTTTCAGCACCAGTGTCTACCAACCAATCCACAACCCACCA  
CACCGGTTTCCTCCTCACATCTGGCTCCATGTTGGGCCGAACAGACACAGCCCTCACAAACACCTACAG  
CGCTCTGCCGCCTATGCCAGCTTCACCATGGCAAATAACCTGCCTATGCAACCCCCAGTCCCCAGCCAG  
ACCTCCTCATACTCCTGCATGCTGCCACCAGCCCTTCGGTGAATGGGCGGAGTTATGATACCTACACCC  
CCCCACATATGCAGACACACATGAACAGTCAGCCAATGGGCACCTCGGGCACCCTTCAACAGGACTCAT  
TCCCCTGGTGTGCAGTTCAGTTCAAGTTCCCGAAGTGAACCTGATATGTCTCAATACTGGCCAAGA  
TTACAG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG203815 representing NM\_000280  
Red=Cloning site Green=Tags(s)

MQNSHSGVNLGGVFNVRPLPDSTRQKIVELAHSGARPCDISRILQVSNCGVSKILGRYYETGSIRPRA  
 IGGSKPRVATPEVYSKIAQYKRECPISFAWEIRDRLSEGVCNDNIPSVSSINRVLRLASEKQQMGAD  
 GMYDKLRMLNGQTGSWGTRPGWYPGTSPVGQPTQDGCQQQEGGENTNSISSNGEDSDEAQMRLQLKRKL  
 QRNRTSFTQEIEALEKEFERHTHPDVFARERLAAKIDLPEARIQVWFSNRRAKWRREEKLRNQRQASN  
 TPSHIPISSSFSTSVYQPIPPQTPVSSFTSGSMLGRDTDALTNTYSALPPMPSTMANNLPMQPPVPSQ  
 TSSYSCLPTSPSVNGRSYDTPPHMQTHMNSQPMGTS GTTSTGLISPGVSPVPVQPGSEPDMSQYWPRLQ

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_000280

**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\\_000280.5](#)

**RefSeq Size:** 6969 bp

**RefSeq ORF:** 1269 bp

**Locus ID:** 5080

**UniProt ID:** [P26367](#)

**Cytogenetics:** 11p13

**Domains:** homeobox, PAX

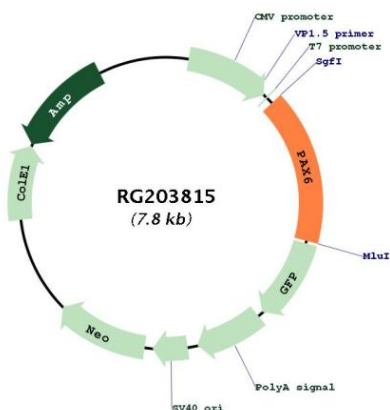
**Protein Families:** Adult stem cells, Druggable Genome, Embryonic stem cells, Transcription Factors

**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 RG203815