

Product datasheet for SC109551

PAX6 (NM_001604) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PAX6 (NM_001604) Human Untagged Clone
Tag:	Tag Free
Symbol:	PAX6
Synonyms:	AN; AN1; AN2; ASGD5; D11S812E; FVH1; MGDA; WAGR
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC109551 sequence for NM_001604 edited (data generated by NextGen Sequencing)

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ATGCAGAACAGTCACAGCGGAGTGAATCAGCTCGGTGGTGTCTTTGTCAACGGGGCGGCCA
CTGCCGGACTCCACCCGGCAGAAGATTGTAGAGCTAGCTCACAGCGGGGCCCGCCGTGC
GACATTTCCCGAATTCTGCAGACCCATGCAGATGCAAAAAGTCCAAGTGCTGGACAATCAA
AACGTGTCCAACGGATGTGTGAGTAAAATTCTGGGCAGGTATTACGAGACTGGCTCCATC
AGACCCAGGGCAATCGGTGGTAGTAAACCGAGAGTAGCGACTCCAGAAGTTGTAAGCAAA
ATAGCCCAGTATAAGCGGGAGTGCCCGTCCATCTTTGCTTGGGAAATCCGAGACAGATTA
CTGTCCGAGGGGTCTGTACCAACGATAACATAACCAAGCGTGTCAATAAACAGAGTT
CTTCGCAACCTGGCTAGCGAAAAGCAACAGATGGGCGCAGACGGCATGTATGATAAACTA
AGGATGTTGAACGGGCAGACCGGAAGCTGGGGCACCCGCCCTGGTTGGTATCCGGGGACT
TCGGTGCCAGGGCAACCTACGCAAGATGGCTGCCAGCAACAGGAAGGAGGGGGAGAGAAT
ACCAACTCCATCAGTTCCAACGGAGAAGATTGAGATGAGGCTCAAATGCGACTTCAGCTG
AAGCGGAAGCTGCAAAAGAAATAGAACATCCTTTACCCAAGAGCAAATGAGGCCCTGGAG
AAAGAGTTTGAGAGAACCATTATCCAGATGTGTTTGCCCGAGAAAGACTAGCAGCCAAA
ATAGATCTACCTGAAGCAAGAATACAGGTATGGTTTTCTAATCGAAGGGCCAAATGGAGA
AGAGAAGAAAACTGAGGAATCAGAGAAGACAGGCCAGCAACACACCTAGTCATATTCCT
ATCAGCAGTAGTTTCAGCACCAGTGTCTACCAACCAATTCCACAACCCACCACACCGGTT
TCCTCCTTACATCTGGCTCCATGTTGGGCCGAACAGACACAGCCCTCACAAACACCTAC
AGCGCTCTGCCGCTATGCCAGCTTACCATGGCAAATAACCTGCCTATGCAACCCCA
GTCCCCAGCCAGACCTCCTCATACTCCTGCATGCTGCCACCAGCCCTTCGGTGAATGGG
CGGAGTTATGATACCTACACCCCCACATATGCAGACACACATGAACAGTCAGCCAATG
GGCACCTCGGGCACCCTTCAACAGGACTCATTCCCCTGGTGTGTGAGTTCCAGTTCAA
GTTCCCGAAGTGAACCTGATATGTCTCAATACTGGCCAAGATTACAGTAA

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Clone variation with respect to NM_001604.4



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5' Read Nucleotide Sequence:	<p>>OriGene 5' read for NM_001604 unedited GTCACAATTTGTATACGACTCACTATAGGCGGCCGCGAAATTCGCACGAGGCCTCGTGCC GAATTCGGCAGCAGGGCACACCAACCCAGCAACATCCGTGGAGAAAACCTCTCACCAGCA ACTCCTTTAAACACCGTCATTTCAAACCATTTGTGGTCTTCAAGCAACAACAGCAGCACA AAAAACCCCAACCAAAACAAAACCTTTGACAGAAGCTGTGACAACCAGAAAGGATGCCTCA TAAAGGGGAAGACTTTAACTAGGGCGCGCAGATGTGTGAGGCCTTTTATTGTGAGAGT GGACAGACATCCGAGATTTAGAGCCCCATATTCGAGCCCCGTGGAATCCCGCGGCCCCC AGCCAGAGCCAGCATGCAGAACAGTACAGCGGAGTGAATCAGCTCGGTGGTGTCTTTGT CAACGGGCGGCCACTGCCGACTCCACCCGGCAGAAAGATTGTAGAGCTAGCTCACAGCGG GGCCCGCCGTGCGACATTTCCCGAATTCTGCAGACCCATGCAGATGCAAAAGTCCAAGT GCTGGACAATCAAACGTGTCCAACGGATGTGTGAGTAAAATTCTGGGCAGGTATTACGA GACTGGCTCCATCAGACCCAGGGCAATCGGTGGTAGTAAACCGAGAGTAGCGACTCCAGA AGTTGTAAGCAAATAGCCAGTATAAGCGGGAGTGCCCGTCCATCTTTGCTTGGGAAAT CCGAGACAGATTACTGTCCCGAGGGGTCTGTACCAACGATAACATAACCAAGCGTGTATC AATAAACAGAGTCTTCGCACCCTGGCTAGCGAAAAGCACCAGATGGGCCAGACCGGAT GTATGATTAAGTAAAGATGTTGAACGGGCAACCCGAAGCTGGGGCACCCGCCCTGGTTG GTATCCGGGGACTTCGGTGCCACGGCAN</p>
3' Read Nucleotide Sequence:	<p>>OriGene 3' read for NM_001604 unedited CCGCGGCCCAATCTANAGTCGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTACTGTAATCTTG GCCAGTATTGAGACATATCAGGTTCACTCCGGGAAGTGAAGTGAAGTGAAGTGAAGTGAAGT GGGAAAATGAGTCTGTGAAGTGGTCCCGAGGTGCCATTGGCTGACTGTTTCATGTGT GTCTGCATATGTGGGGGGTGTAGGTATCATAACTCCGCCATTACCGAAGGGCTGGT GGCAGCATGCAGGAGTATGAGGAGTCTGGCTGGGGACTGGGGGTGCATAGGCAGGTTA TTTGCCATGGTGAAGCTGGGCATAGCGGCAGAGCGCTGTAGGTGTTTGTGAGGGCTGTG TCTGTTCCGCCAACATGGAGCCAGATGTGAAGGAGGAAACCGGTGTGGTGGGTTGTGGA ATTGGTTGGTAGACACTGGTGTGAAACTACTGCTGATAGGAATAGACTAGGTGTGTTG CTGGCCTGTCTTCTGATTCTCAGTTTTTCTTCTTTTTCCATTTGGCCCTTCGATTA GAAAACCATACCTGTATTCTTGCTTCAGGTAGATCTATTTGGCTGCTAGTCTTTCTCGG GCAAACACATCTGATAATGGGTTCTCTCAAACCTTTTTCCAGGGCCTTAATTTGCTCT TGGTAAAGGATGTTCTATTTTTTTGTCAGCTTCCGCTTCAGCTGAAATCGCATTTGAGCCT AATCTGAATCTTCCGCTTGAAGTATGGGATTTGTTATTCTTTCCCCCTTTCTTTCTTG TTGCTGGCAGCCTTCTTGCCTAAGGTTCCCTGGGCACCGAAATCCCCGTAAACCAACC ACGGGCGGGTTGCCCCAGCTTTCCGGTCTGCCCGTCAACAATCCTTTATTTTTATAACT GCCGTGTGCGCCCTTTGTGGTTTTCTTACCAGTTGCCAACAACTTTTTATTGTTTA ACCT</p>
Restriction Sites:	NotI-NotI
ACCN:	NM_001604
Insert Size:	1710 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_001604.3](#), [NP_001595.2](#)

RefSeq Size: 2781 bp

RefSeq ORF: 1311 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

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]

Transcript Variant: This variant (2) uses an alternate splice site in the 5' UTR, and includes an alternate in-frame exon in the 5' coding region, compared to variant 1. It initiates from the B (P1) promoter. The encoded isoform (b, also known as 5a) is longer than isoform a. Variants 2, 4, 5, 8, and 17-19 all encode the same isoform (b). **Sequence Note:** This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.