

Product datasheet for **SC323044**

PAX6 (NM_001127612) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PAX6 (NM_001127612) Human Untagged Clone
Tag:	Tag Free
Symbol:	PAX6
Synonyms:	AN; AN1; AN2; ASGD5; D11S812E; FVH1; MGDA; WAGR
Vector:	<u>pCMV6 series</u>
Fully Sequenced ORF:	>NCBI ORF sequence for NM_001127612, the custom clone sequence may differ by one or more nucleotides ATGCAGAACAGTACAGCGGAGTGAATCAGCTCGGTGGTGTCTTTGTCAACGGGCGGCCA CTGCCGGACTCCACCCGGCAGAAGATTGTAGAGCTAGCTCACAGCGGGCCCGGCGTGC GACATTTCCGAATTCTGCAGGTGTCCAACGGATGTGTGAGTAAAATTCTGGGCAGGTAT TACGAGACTGGCTCCATCAGACCCAGGGCAATCGGTGGTAGTAAACCGAGAGTAGCGACT CCAGAAGTTGTAAGCAAATAGCCAGTATAAGCGGGAGTGCCCGTCCATCTTTGCTTGG GAAATCCGAGACAGATTACTGTCCGAGGGGTCTGTACCAACGATAACATAACCAAGCGTG TCATCAATAAACAGAGTTCTTCGCAACCTGGCTAGCGAAAAGCAACAGATGGGCGCAGAC GGCATGTATGATAAACTAAGGATGTTGAACGGGCAGACCGGAAGCTGGGGCACCCGCCCT GGTTGGTATCCGGGGACTTCGGTGCCAGGGCAACCTACGCAAGATGGCTGCCAGCAACAG GAAGGAGGGGGAGAGAATACCAACTCCATCAGTCCAACGGAGAAGATTCAGATGAGGCT CAAATGCGACTTCAGCTGAAGCGGAAGCTGCAAAGAAATAGAACATCCTTTACCCAAGAG CAAATTGAGGCCCTGGAGAAAGAGTTTGAGAGAACCCATTATCCAGATGTGTTTGCCCGA GAAAGACTAGCAGCCAAAATAGATCTACCTGAAGCAAGAATACAGGTATGGTTTTCTAAT CGAAGGGCCAAAATGGAGAAGAGAAGAAAACTGAGGAATCAGAGAAGACAGGCCAGCAAC ACACCTAGTCATATTCCTATCAGCAGTAGTTTCAGCACCAGTGTCTACCAACCAATTCCA CAACCCACCACACCGGTTTCCTCCTTCACATCTGGCTCCATGTTGGGCCGAACAGACACA GCCCTCACAACACCTACAGCGCTCTGCCGCTATGCCAGCTTCACCATGGCAAATAAC CTGCCTATGCAACCCCCAGTCCCCAGCCAGACCTCCTCATACTCTGCATGCTGCCACC AGCCCTTCGGTGAATGGGCGGAGTTATGATACCTACACCCCCACATATGCAGACACAC ATGAACAGTCAGCCAATGGGCACCTCGGGCACCCTTCAACAGGACTCATTTCCCTGGT GTGTCAGTTCCAGTTCAAGTCCCAGGAGTGAACCTGATATGTCTCAATACTGGCCAAGA TTACAG
Restriction Sites:	Please inquire
ACCN:	NM_001127612



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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).
OTI Annotation:	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
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:	<ol style="list-style-type: none"> 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:	<u>NM_001127612.1</u> , <u>NP_001121084.1</u>
RefSeq Size:	6883 bp
RefSeq ORF:	1269 bp
Locus ID:	5080
UniProt ID:	<u>P26367</u>
Cytogenetics:	11p13
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 (3) differs in the 5' UTR compared to variant 1. It initiates from the A (P0) promoter. Variants 1, 3, 6, 7, and 12-16 all encode the same isoform (a). 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.