

Product datasheet for **SC302494**

Melanopsin (OPN4) (NM_001030015) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Melanopsin (OPN4) (NM_001030015) Human Untagged Clone
Tag:	Tag Free
Symbol:	Melanopsin
Synonyms:	MOP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >SC302494 representing NM_001030015.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGAACCCTCCTTCGGGGCCAAGAGTCCCGCCCAGCCCAACCCAAGAGCCCAGCTGCATGGCCACCCCA
GCACCACCCAGCTGGTGGGACAGCTCCCAGAGCAGCATCTCCAGCCTGGGCGGCTTCCATCCATCAGT
CCCACAGCACCTGGGACTTGGGCTGCTGCCTGGGTCCCCCTCCCACGGTTGATGTTCCAGACCATGCC
CACTATACCCTGGGCACAGTGATCTTGCTGGTGGGACTCACGGGGATGCTGGGCAACCTGACGGTCATC
TATACCTTCTGCAGAGCTGTGCTTCGTGGAGTCACTGTGATGATGCAGAGCAGAAGCCTCCGGACACCT
GCCAACATGTTTATTATCAACCTCGCGGTGAGGACTTCCCTCATGTCTTACCCAGGCCCTGTCTTC
TTCACCAGTAGCCTCTATAAGCAGTGGCTCTTTGGGGAGACAGGCTGCGAGTTCTATGCCTTCTGTGGA
GCTCTCTTTGGCATTTCCTCCATGATCACCTGACGGCCATCGCCCTGGACCGCTACCTGGTAATCACA
CGCCCGCTGGCCACCTTTGGTGTGGCGTCCAAGAGGCGTGGCCATTTGCTGCTGGGCGTTTGGCTC
TATGCCCTGGCCTGGAGTCTGCCACCCTTCTTCGGCTGGAGCGCTACGTGCCCGAGGGGTTGCTGACA
TCTGCTCCTGGGACTACATGAGCTTACGCCCGCGTGCCTGCTACACCATGCTTCTGCTGCTTC
GTGTTCTTCTCCCTCTGCTTATCATCATCTACTGCTACATCTTTCATCTTCAGGGCCATCCGGGAGACA
GGACGGGCTCTCCAGACCTTCGGGGCTGCAAGGGCAATGGCGAGTCCCTGTGGCAGCGGACGGCTG
CAGAGCGAGTGAAGATGGCCAAGATCATGCTGCTGGTCACTCCTCCTTCTGCTCTCCTGGGCTCCC
TATTCGCTGTGGCCCTGGTGGCCTTTGCTGGGTACGCACACGTCCTGACACCCTACATGAGCTCGGTG
CCAGCCGTCATCGCCAAGGCCTTGCAATCCACAACCCCATATTTACGCCATCACCCACCCCAAGTAC
AGGGTGGCCATTGCCAGCACCTGCCCTGCCTGGGGTGTGCTGGGTGTATCACGCCGGCACAGTCCGC
CCCTACCCAGCTACCGCTCCACCACCGCTCCACGCTGACCAGCCACACCTCCAACCTCAGCTGGATC
TCCATACGGAGGGCCAGGAGTCCCTGGGCTCGGAGAGTGAGGTGGGCTGGACACACATGGAGGCAGCA
GCTGTGTGGGAGCTGCCAGCAAGCAAAATGGGCGGTCCCTCTACGGTCAAGGCTGAGGAGTGGAA
GCCAAGGCACCCCCAGACCCAGGGACACGAAGCAGAGACTCCAGGGAAGACCAAGGGGCTGATCCCC
AGCCAGGACCCCAAGGATGTAG
ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC
  
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Restriction Sites: SgfI-MluI

ACCN: NM_001030015

Insert Size: 1470 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).

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:

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_001030015.2](#)

RefSeq Size: 2419 bp

RefSeq ORF: 1470 bp

Locus ID: 94233

UniProt ID: [Q9UHM6](#)

Cytogenetics: 10q23.2

Protein Families: Druggable Genome, Transmembrane

MW: 53.8 kDa

Gene Summary: Opsins are members of the guanine nucleotide-binding protein (G protein)-coupled receptor superfamily. This gene encodes a photoreceptive opsin protein that is expressed within the ganglion and amacrine cell layers of the retina. In mouse, retinal ganglion cell axons expressing this gene projected to the suprachiasmatic nucleus and other brain nuclei involved in circadian photoentrainment. In mouse, this protein is coupled to a transient receptor potential (TRP) ion channel through a G protein signaling pathway and produces a physiologic light response via membrane depolarization and increased intracellular calcium. The protein functions as a sensory photopigment and may also have photoisomerase activity. Experiments with knockout mice indicate that this gene attenuates, but does not abolish, photoentrainment. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (2) includes an alternate in-frame exon in the 5' coding region, compared to variant 1, resulting in a longer protein (isoform 2) compared to isoform 1.