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Product datasheet for RC215793

Melanopsin (OPN4) (NM_001030015) Human Tagged ORF Clone

Product data:

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

ORF Nucleotide Sequence:

>RC215793 representing NM_001030015
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAACCCTCCTTCGGGGCCAAGAGTCCCGCCCAGCCCAACCCAAGAGCCCAGCTGCATGGCCACCCCAG
CACCACCCAGCTGGTGGGACAGCTCCCAGAGCAGCATCTCCAGCCTGGGCCGGCTTCCATCCATCAGTCC
CACAGCACCTGGGACTTGGGCTGCTGCCTGGGTCCCCCTCCCCACGGTTGATGTTCCAGACCATGCCCAC
TATACCCTGGGCACAGTGATCTTGCTGGTGGGACTCACGGGGATGCTGGGCAACCTGACGGTCATCTATA
CCTTCTGCAGAGCTGTGCTTCGTGGAGTCACTGTGATGATGCAGAGCAGAAGCCTCCGGACACCTGCCAA
CATGTTCATTATCAACCTCGCGGTCAGCGACTTCCTCATGTCCTTCACCCAGGCCCCTGTCTTCTTCACC
AGTAGCCTCTATAAGCAGTGGCTCTTTGGGGAGACAGGCTGCGAGTTCTATGCCTTCTGTGGAGCTCTCT
TTGGCATTTCCTCCATGATCACCCTGACGGCCATCGCCCTGGACCGCTACCTGGTAATCACACGCCCGCT
GGCCACCTTTGGTGTGGCGTCCAAGAGGCGTGCGGCATTTGTCCTGCTGGGCGTTTGGCTCTATGCCCTG
GCCTGGAGTCTGCCACCCTTCTTCGGCTGGAGCGCCTACGTGCCCGAGGGGTTGCTGACATCCTGCTCCT
GGGACTACATGAGCTTCACGCCGGCCGTGCGTGCCTACACCATGCTTCTCTGCTGCTTCGTGTTCTTCCT
CCCTCTGCTTATCATCATCTACTGCTACATCTTCATCTTCAGGGCCATCCGGGAGACAGGACGGGCTCTC
CAGACCTTCGGGGCCTGCAAGGGCAATGGCGAGTCCCTGTGGCAGCGGCAGCGGCTGCAGAGCGAGTGCA
AGATGGCCAAGATCATGCTGCTGGTCATCCTCCTCTTCGTGCTCTCCTGGGCTCCCTATTCCGCTGTGGC
CCTGGTGGCCTTTGCTGGGTACGCACACGTCCTGACACCCTACATGAGCTCGGTGCCAGCCGTCATCGCC
AAGGCCTCTGCAATCCACAACCCCATCATTTACGCCATCACCCACCCCAAGTACAGGGTGGCCATTGCCC
AGCACCTGCCCTGCCTGGGGGTGCTGCTGGGTGTATCACGCCGGCACAGTCGCCCCTACCCCAGCTACCG
CTCCACCCACCGCTCCACGCTGACCAGCCACACCTCCAACCTCAGCTGGATCTCCATACGGAGGCGCCAG
GAGTCCCTGGGCTCGGAGAGTGAGGTGGGCTGGACACACATGGAGGCAGCAGCTGTGTGGGGAGCTGCCC
AGCAAGCAAATGGGCGGTCCCTCTACGGTCAGGGTCTGGAGGACTTGGAAGCCAAGGCACCCCCCAGACC
CCAGGGACACGAAGCAGAGACTCCAGGGAAGACCAAGGGGCTGATCCCCAGCCAGGACCCCAGGATG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC215793 representing NM_001030015
Red=Cloning site Green=Tags(s)

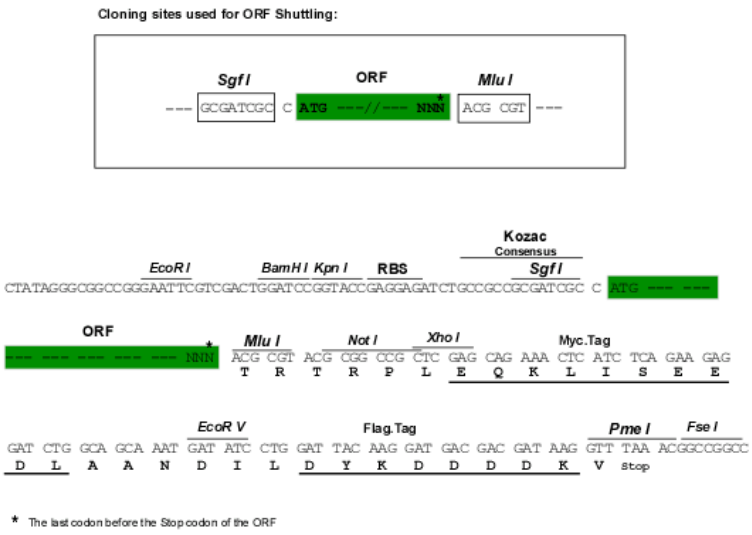
MNPPSGPRVPPSPTQEPSCMATPAPPSWWDSSQSSISSLGRLPSISPTAPGTWAAAWVPLPTVDVPDHAH
YTLGTVILLVGLTGMLGNLTVIYTFCRAVLRGVTVMMQSRSLRTPANMFIINLAVSDFLMSFTQAPVFFT
SSLYKQWLFGETGCEFYAFCGALFGISSMITLTAIALDRYLVITRPLATFGVASKRRAAFVLLGVWLYAL
AWSLPPFFGWSAYVPEGLLTSCSWDYMSFTPAVRAYTMLLCCFVFFLPLLIIIYCYIFIFRAIRETGRAL
QTFGACKGNGESLWQRQRLQSECKMAKIMLLVILLFVLSWAPYSAVALVAFAGYAHVLTPYMSSVPAVIA
KASAIHNPIIYAITHPKYRVAIAQHLPCLGVLLGVSRRHSRPYPSYRSTHRSTLTSHTSNLSWISIRRRQ
ESLGSESEVGWTHMEAAAVWGAAQQANGRSLYGQGLEDLEAKAPPRPQGHEAETPGKTKGLIPSQDPRM

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk8062_h08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001030015

ORF Size: 1467 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: NM_001030015.2, NP_001025186.1

RefSeq Size: 2341 bp

RefSeq ORF: 1470 bp

Locus ID: 94233

UniProt ID: Q9UHM6

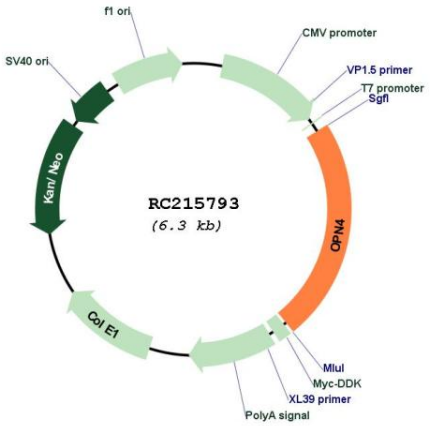
Cytogenetics: 10q23.2

Protein Families: Druggable Genome, Transmembrane

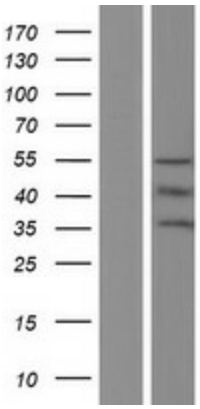
MW: 53.6 kDa

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]

Product images:



Circular map for RC215793



Western blot validation of overexpression lysate (Cat# [LY422235]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215793 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).