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Opn1mw Rabbit pAb

Catalog # AP98290

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P04001
Other Accession	P04001
Predicted	Rat, Cat, Human, Mouse, Rabbit, Chicken, Goat, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40584
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Opn1mw
Epitope Specificity	1-100/364
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the G-protein coupled receptor 1 family. Opsin subfamily.
Post-translational modifications	Phosphorylated on some or all of the serine and threonine residues present in the C-terminal region.
DISEASE	Defects in OPN1MW are the cause of partial colorblindness deutan series (CBD) [MIM:303800]; also known as deuteranopia. Defects in OPN1MW are a cause of blue cone monochromacy (BCM) [MIM:303700]. A rare X-linked congenital stationary cone dysfunction syndrome characterized by the absence of functional long wavelength-sensitive and medium wavelength-sensitive cones in the retina. Color discrimination is severely impaired from birth, and vision is derived from the remaining preserved blue (S) cones and rod photoreceptors. BCM typically presents with reduced visual acuity, pendular nystagmus, and photophobia. Patients often have myopia. Defects in OPN1MW are a cause of cone dystrophy type 5 (COD5) [MIM:303700]. A X-linked cone dystrophy. Cone dystrophies are retinal dystrophies characterized by progressive degeneration of the cone photoreceptors with preservation of rod function, as indicated by electroretinogram. However, some rod involvement may be present in some cone dystrophies, particularly at late stage. Affected individuals suffer from photophobia, loss of visual acuity, color vision and central visual field. Another sign is the absence of macular lesions for many years. Cone dystrophies are distinguished from the cone-rod dystrophies in which some loss of peripheral vision also occurs.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes for a light absorbing visual pigment of the opsin gene family. The encoded protein is called green cone photopigment or medium-wavelength sensitive opsin. Opsins are G-protein coupled receptors with seven transmembrane domains, an N-terminal extracellular domain, and a C-terminal cytoplasmic domain. The long-wavelength opsin gene and multiple copies of the medium-wavelength opsin gene are tandemly arrayed on the X chromosome and frequent unequal recombination and gene conversion may occur between these sequences. X chromosomes may have

fusions of the medium- and long-wavelength opsin genes or may have more than one copy of these genes. Defects in this gene are the cause of deutanopic colorblindness. [provided by RefSeq, Mar 2009]

Additional Information

Gene ID	101060233;2652
Other Names	CBBM; CBD; COD5; GCP; GOP; OPN1MW1; ML-opsin; Opn1lw; Rsvp; OPSG_HUMAN; OPN1MW; Green cone photoreceptor pigment; Green-sensitive opsin (GOP); OPSG_MOUSE; Green-sensitive opsin (M opsin); Medium wavelength-sensitive cone opsin; OPSG_RAT; Green-sensitive opsin; opsin 1, medium wave sensitive; color blindness, deutan; opsin 1 (cone pigments), medium-wave-sensitive; cone dystrophy 5 (X-linked)
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	OPN1MW (HGNC:4206)
Synonyms	GCP
Function	G protein-coupled photoreceptor that selectively activates transducin G alpha protein (G(t)) in response to medium-wavelength (green) light, thereby stimulating the G(t)/transducin protein pathway (PubMed:2937147, PubMed:6140680). This activation leads to increased cGMP phosphodiesterase activity, resulting in decreased intracellular cGMP and subsequent closure of cGMP-gated ion channels (By similarity). The process is initiated when the opsin-bound cis-retinal chromophore absorbs a photon and isomerizes to all-trans-retinal, inducing a conformational change in the opsin that triggers the G protein-mediated phototransduction cascade (By similarity). Mediates visual perception of green light in cone photoreceptor cells (PubMed:12051694, PubMed:1302020, PubMed:8666378).
Cellular Location	Cell membrane; Multi-pass membrane protein. Photoreceptor outer segment membrane {ECO:0000250|UniProtKB:O35599}; Multi-pass membrane protein
Tissue Location	The red (OPN1LW), green (OPN1MW), and blue (OPN1SW) photoreceptor pigments are found in cone cells

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