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OPN1MW Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP4917a

Product Information

Application	FC, WB, E
Primary Accession	P04001
Other Accession	O12948, P04000, P22329, O35476
Reactivity	Human
Predicted	Rat, Chicken, Xenopus, Mouse, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24518
Calculated MW	40584
Antigen Region	21-50

Additional Information

Gene ID	101060233;2652
Other Names	Medium-wave-sensitive opsin 1, Green cone photoreceptor pigment, Green-sensitive opsin, GOP, OPN1MW, GCP
Target/Specificity	This OPN1MW antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 21-50 amino acids from the N-terminal region of human OPN1MW.
Dilution	FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	OPN1MW Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

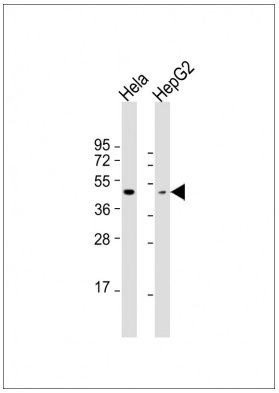
Background

OPN1MW 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.

References

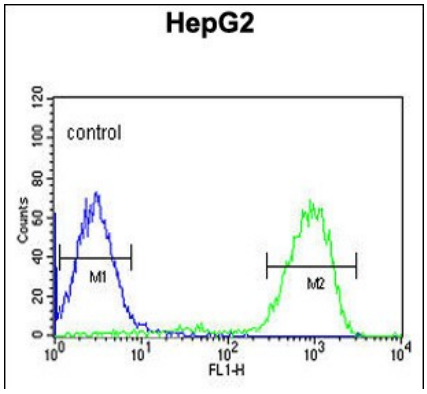
Thirumuruganandham, S.P., et al. J Mol Model 15(8):959-969(2009)
Ala-Laurila, P., et al. J. Biol. Chem. 284(24):16492-16500(2009)
Holmes, M.V., et al. PLoS ONE 4 (12), E7960 (2009)

Images



All lanes : Anti-OPN1MW Antibody (N-term) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 41 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

OPN1MW Antibody (N-term) (Cat. #AP4917a) flow cytometric analysis of HepG2 K10cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.