

Anti-Melanopsin Antibody

Catalog # AP59887

Product Information

Application	WB
Primary Accession	Q9UHM6
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	52635

Additional Information

Gene ID	94233
Other Names	MOP; Melanopsin; Opsin-4
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human Melanopsin. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	OPN4 (HGNC:14449)
Synonyms	MOP
Function	G protein-coupled photoreceptor that signals through the G(q/11) family of G proteins in response to light in intrinsically photosensitive retinal ganglion cells (ipRGCs) (By similarity). Can also activate other G proteins, including G(i/o) and G(s), depending on the cell type, leading to either activation or inhibition of adenylate cyclase and cAMP-dependent signaling (PubMed:35274137). Activation occurs when opsin-bound cis-retinal chromophore absorbs a photon and isomerizes to all-trans-retinal, inducing a conformational change in the opsin that triggers a G protein-mediated phototransduction cascade (PubMed:15674244). Acts as a bistable protein, allowing photoreversible regeneration of the cis-retinal chromophore after stimulation (PubMed:15674244). Contributes to non-image-forming visual response to light in ipRGCs, including the pupillary light reflex and the regulation of circadian rhythms (By similarity). In M1 ipRGCs (non- image forming) subtypes, activates a G(q)-phospholipase C (PLC) signaling cascade

leading to depolarization through opening of TRPC6/7 channels and decreased intrinsic excitability (By similarity). Mediates phototransduction in M4 ipRGCs (image forming) subtypes across dim to bright light conditions via G(q)-PLC signaling, resulting in increased intrinsic excitability through closure of potassium leak channels (most likely TASK channels), thereby enhancing contrast sensitivity (By similarity). At bright light intensities, further enhances depolarization in M4 ipRGCs via activation of TRPC channels (By similarity). May be involved in the optokinetic visual tracking response. May also play a role in regulating retinal hyaloid vessel growth and regression (By similarity).

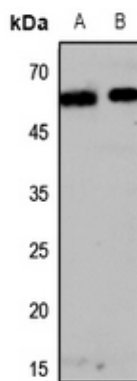
Cellular Location

Cell membrane; Multi-pass membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:Q9QXZ9}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q9QXZ9}. Perikaryon {ECO:0000250|UniProtKB:Q9QXZ9}

Tissue Location

Expressed in the retina.

Images



Western blot analysis of Melanopsin expression in HEK293T (A), HeLa (B) whole cell lysates. (Predicted band size: 52 kD; Observed band size: 65 kD)

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