

Opn3 antibody - C-terminal region

Rabbit Polyclonal Antibody

Catalog # AI14464

Product Information

Application	WB
Primary Accession	Q9WUK7
Other Accession	NM_010098 , NP_034228
Reactivity	Human, Mouse, Rat, Rabbit, Dog, Guinea Pig, Horse
Predicted	Human, Mouse, Rat, Rabbit, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	44947

Additional Information

Gene ID	13603
Alias Symbol	ERO, Ecpn, MGC124138, panopsin
Other Names	Opsin-3, Encephalopsin, Panopsin, Opn3, Ecpn
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-Opn3 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	Opn3 antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Opn3 {ECO:0000312 MGI:MGI:1338022}
Synonyms	Ecpn
Function	G protein-coupled photoreceptor that selectively activates G(i/o) proteins in response to light, thereby decreasing intracellular cAMP levels (PubMed: 30284927). Activation occurs 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 a G protein-mediated phototransduction cascade. Mediates blue light- induced pigmentation in melanocytes by activating calcium/CAMK2 signaling, followed by phosphorylation of CREB, p38, ERK and MITF (By similarity). Required for TYR and DCT blue light-induced complex formation in melanocytes. Involved in

keratinocyte differentiation in response to blue-light. Plays a role in melanocyte survival through regulation of intracellular calcium levels and subsequent BCL2/RAF1 signaling. Additionally, regulates apoptosis via cytochrome c release and subsequent activation of the caspase cascade. Responsible for ultraviolet A (UVA)-induced keratinocytes supranuclear melanin cap formation via activating calcium/CAMK2, CREB, and Akt signal transduction, and ultimately increasing DYNC1I1 and DCTN1 expression levels, thereby playing a role in the skin response to UV radiation. Required for the UVA-mediated induction of calcium and MAPK signaling resulting in the expression of MMP1, MMP2, MMP3, MMP9 and TIMP1 in dermal fibroblasts (By similarity). Also plays a role in light-mediated glucose uptake, mitochondrial respiration and fatty acid metabolism in brown adipocyte tissues (PubMed:[32040503](#)). May be involved in photorelaxation of airway smooth muscle cells, via blue light-dependent GPCR signaling pathways (PubMed:[30284927](#)). Also inhibits melanogenesis in melanocytes by specifically inhibiting MC1R-evoked cAMP signaling in a constitutive, light-independent manner (By similarity). In the paraventricular nucleus of the hypothalamus, inhibits MC4R-mediated cAMP signaling and activates KCNJ13 channel opening in a constitutive manner, thereby promoting food intake and modulating spontaneous firing of neurons (PubMed:[39951488](#)).

Cellular Location

Cell membrane {ECO:0000250 | UniProtKB:Q9H1Y3}; Multi-pass membrane protein. Cytoplasm {ECO:0000250 | UniProtKB:Q9H1Y3}

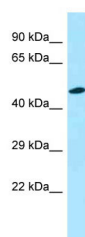
Tissue Location

Expressed in the eye (at protein level) (PubMed:30284927). Expressed in tracheal airway smooth muscle (PubMed:30284927). Expressed in brown adipocyte tissue; expression becomes more abundant during differentiation (PubMed:32040503) Strongly expressed in brain (PubMed:10234000). Highly expressed in the preoptic area and paraventricular nucleus of the hypothalamus (PubMed:10234000, PubMed:39951488). Shows highly patterned expression in other regions of the brain, being enriched in selected regions of the cerebral cortex, cerebellar Purkinje cells, a subset of striatal neurons, selected thalamic nuclei, and a subset of interneurons in the ventral horn of the spinal cord (PubMed:10234000)

References

Blackshaw S.,et al.J. Neurosci. 19:3681-3690(1999).
Kasper G.,et al.Gene 295:27-32(2002).
Carninci P.,et al.Science 309:1559-1563(2005).

Images



WB Suggested Anti-Opn3 Antibody Titration: 1.0 µg/ml
Positive Control: Mouse Small Intestine