

melanopsin (E-12): sc-515838

BACKGROUND

G protein-coupled receptors (GPCRs) contain seven transmembrane helices and elicit G protein-mediated signaling cascades. The opsin family represents approximately 90 percent of all GPCRs and includes red, green, and blue-sensitive opsins, rhodopsin and melanopsin. Opsins consist of an apoprotein covalently linked to 11-*cis*-retinal that undergoes isomerization upon photon absorption. The photon-induced conformation change of opsin activates hundreds of G proteins. Mammalian melanopsin expression selectively occurs in the inner retina and not in the photoreceptor cells critical for vision. Melanopsin plays a nonessential role in the transduction of photic stimuli for light/dark entrainment.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: OPN4 (human) mapping to 10q23.2; Opn4 (mouse) mapping to 14 B.

SOURCE

melanopsin (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 430-451 near the C-terminus of melanopsin of rat origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

melanopsin (E-12) is recommended for detection of melanopsin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for melanopsin siRNA (h): sc-40146, melanopsin siRNA (m): sc-40147, melanopsin shRNA Plasmid (h): sc-40146-SH, melanopsin shRNA Plasmid (m): sc-40147-SH, melanopsin shRNA (h) Lentiviral Particles: sc-40146-V and melanopsin shRNA (m) Lentiviral Particles: sc-40147-V.

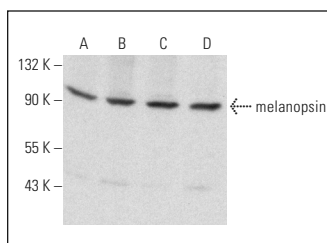
Molecular Weight of melanopsin: 65 kDa.

Positive Controls: RAT2 whole cell lysate: sc-364198, RPE-J cell lysate: sc-24771 or L8 cell lysate: sc-3807.

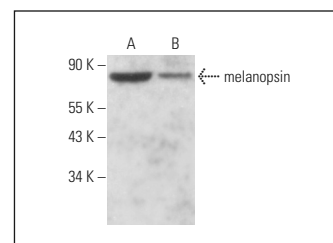
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



melanopsin (E-12): sc-515838. Western blot analysis of melanopsin expression in RAT2 (A), RPE-J (B), H19-7/IGF-IR (C) and L8 (D) whole cell lysates.



melanopsin (E-12): sc-515838. Western blot analysis of melanopsin expression in Hep G2 (A) and EOC 20 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. El-Mansi, A.A., Al-Kahtani, M.A., Al-Sayyad, K.M., Ahmed, A.E. and Rady, A.M. 2020. Visual adaptability and retinal characterization of the Egyptian fruit bat (*Rousettus aegyptiacus*, Pteropodidae): new insights into photoreceptors spatial distribution and melanosomal activity. *Micron* 137: 102897.

RESEARCH USE

For research use only, not for use in diagnostic procedures.