

# melanopsin (V-20): sc-26957

## 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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6. Ruby, N.F., Brennan, T.J., Xie, X., Cao, V., Franken, P., Heller, H.C. and O'Hara, B.F. 2002. Role of melanopsin in circadian responses to light. *Science* 298: 2211-2213.

## CHROMOSOMAL LOCATION

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

## SOURCE

melanopsin (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of melanopsin of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26957 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

melanopsin (V-20) is recommended for detection of melanopsin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

melanopsin (V-20) is also recommended for detection of melanopsin in additional species, including equine and avian.

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: Rat brain extract: sc-2392.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.