BACKGROUND

G protein-coupled receptors (GPCRs), which are characterized by containing seven transmembrane $\alpha$ helices, elicit G protein-mediated signaling cascades in response to a variety of stimuli. The opsin subfamily, which represents approximately 90 percent of all GPCRs, is comprised of photoreceptors that are activated by light. It includes the red, green and blue-sensitive opsins and rhodopsin. The opsin subfamily consists of an apoprotein covalently linked to 11- cis-retinal, which undergoes isomerization upon the absorption of photons. This isomerization leads to a conformational change of the protein, which results in the activation of hundreds of G proteins. Color is perceived in humans by three pigments, which localize to retinal cone photoreceptor cells. They are the blue-, green- and red-sensitive opsins, which are encoded by OPN1SW, OPN1MW and OPN1LW, respectively. Red-sensitive opsin has an absorption maximum at 560nm and green-sensitive opsin has an absorption maximum at 530nm. Deficiency of green- and red-sensitive opsins results in protanopia and deuteranopia color blindness, respectively.

REFERENCES


CHROMOSOMIC LOCATION

Genetic locus: OPN1LW (human) mapping to Xq28.

SOURCE

red/green-sensitive opsin (7G8) is a mouse monoclonal antibody raised against purified red/green cone opsin of human origin.

PRODUCT

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

red/green-sensitive opsin (7G8) is recommended for detection of red/green-sensitive opsin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for OPN1LW/MW/MW2 siRNA (h): sc-44074, OPN1LW/MW/MW2 shRNA Plasmid (h): sc-44074-SH and OPN1LW/MW/MW2 shRNA (h) Lentiviral Particles: sc-44074-V.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$ BP-HRP: sc-516102 or m-IgG $\kappa$ 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.

SELECT PRODUCT CITATIONS


STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.