

MREG (P-15): sc-168638

BACKGROUND

The photoreceptor rod cell that is responsible for vision under conditions of low light consists of stacked arrays of disk membranes that make up its outer segment portion. Regulated by complex biochemical mechanisms, the rod outer segment is under constant renewal as new disks form at the base. MREG (melanoregulin), also known as DSU (dilute suppressor protein homolog) or WDT2, is thought to play a role in membrane fusion and in regulating the biogenesis of disk membranes of photoreceptor rods. MREG interacts with RDS (also known as Peripherin-2), a photoreceptor-specific tetraspanin protein that is required to maintain normal cell structure during the renewal process of membrane fusion. MREG is 214 amino acids in length, is expressed in photoreceptor cells and is expressed as two isoforms due to alternative splicing.

REFERENCES

1. Roof, D.J., Korenbrot, J.I. and Heuser, J.E. 1982. Surfaces of rod photoreceptor disk membranes: light-activated enzymes. *J. Cell Biol.* 95: 501-509.
2. Boesze-Battaglia, K., Albert, A.D., Frye, J.S. and Yeagle, P.L. 1996. Differential membrane protein phosphorylation in bovine retinal rod outer segment disk membranes as a function of disk age. *Biosci. Rep.* 16: 289-297.
3. Poetsch, A., Molday, L.L. and Molday, R.S. 2001. The cGMP-gated channel and related glutamic acid-rich proteins interact with Peripherin-2 at the rim region of rod photoreceptor disc membranes. *J. Biol. Chem.* 276: 48009-48016.
4. Loewen, C.J., Moritz, O.L., Tam, B.M., Papermaster, D.S. and Molday, R.S. 2003. The role of subunit assembly in Peripherin-2 targeting to rod photoreceptor disk membranes and retinitis pigmentosa. *Mol. Biol. Cell* 14: 3400-3413.
5. Damek-Poprawa, M., Krouse, J., Gretzula, C. and Boesze-Battaglia, K. 2005. A novel tetraspanin fusion protein, Peripherin-2, requires a region upstream of the fusion domain for activity. *J. Biol. Chem.* 280: 9217-9224.
6. Boesze-Battaglia, K., Song, H., Sokolov, M., Lillo, C., Pankoski-Walker, L., Gretzula, C., Gallagher, B., Rachel, R.A., Jenkins, N.A., Copeland, N.G., Morris, F., Jacob, J., Yeagle, P., Williams, D.S. and Damek-Poprawa, M. 2007. The tetraspanin protein Peripherin-2 forms a complex with melanoregulin, a putative membrane fusion regulator. *Biochemistry* 46: 1256-1272.
7. SWISS-PROT/TrEMBL (Q8N565). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: MREG (human) mapping to 2q35; Mreg (mouse) mapping to 1 C3.

SOURCE

MREG (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MREG of human origin.

RESEARCH USE

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

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-168638 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MREG (P-15) is recommended for detection of MREG 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).

MREG (P-15) is also recommended for detection of MREG in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MREG siRNA (h): sc-94777, MREG siRNA (m): sc-149550, MREG shRNA Plasmid (h): sc-94777-SH, MREG shRNA Plasmid (m): sc-149550-SH, MREG shRNA (h) Lentiviral Particles: sc-94777-V and MREG shRNA (m) Lentiviral Particles: sc-149550-V.

Molecular Weight of MREG: 28 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

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 or our catalog for detailed protocols and support products.


 MONOS
 Satisfaction
 Guaranteed

Try **MREG (F-3): sc-374216** or **MREG (A-6): sc-374144**, our highly recommended monoclonal alternatives to MREG (P-15).