

MREG (F-3): sc-374216



The Power to Question

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., et al. 1982. Surfaces of rod photoreceptor disk membranes: light-activated enzymes. *J. Cell Biol.* 95: 501-509.
2. Boesze-Battaglia, K., et al. 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., et al. 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., et al. 2003. The role of subunit assembly in peripherin-2 targeting to rod photoreceptor disk membranes and retinitis pigmentosa. *Mol. Biol. Cell* 14: 3400-3413.

CHROMOSOMAL LOCATION

Genetic locus: MREG (human) mapping to 2q35.

SOURCE

MREG (F-3) is a mouse monoclonal antibody raised against amino acids 1-214 representing full length MREG of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MREG (F-3) is available conjugated to agarose (sc-374216 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374216 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374216 PE), fluorescein (sc-374216 FITC), Alexa Fluor® 488 (sc-374216 AF488), Alexa Fluor® 546 (sc-374216 AF546), Alexa Fluor® 594 (sc-374216 AF594) or Alexa Fluor® 647 (sc-374216 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374216 AF680) or Alexa Fluor® 790 (sc-374216 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

MREG (F-3) is recommended for detection of MREG of 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 MREG siRNA (h): sc-94777, MREG shRNA Plasmid (h): sc-94777-SH and MREG shRNA (h) Lentiviral Particles: sc-94777-V.

Molecular Weight of MREG: 28 kDa.

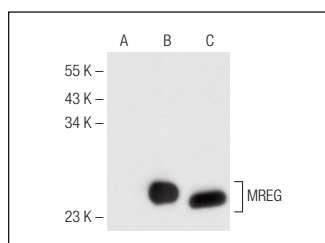
Positive Controls: MCF7 whole cell lysate: sc-2206 or MREG (h2): 293T Lysate: sc-115293.

RECOMMENDED SUPPORT REAGENTS

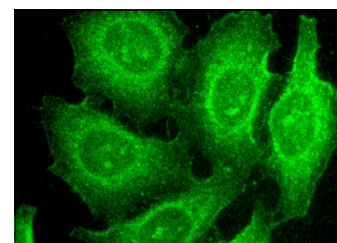
To ensure optimal results, the following support reagents are recommended:

- 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 A/G PLUS-Agarose: sc-2003 (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



MREG (F-3): sc-374216. Western blot analysis of MREG expression in non-transfected 293T: sc-117752 (A), human MREG transfected 293T: sc-115293 (B) and MCF7 (C) whole cell lysates.



MREG (F-3): sc-374216. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Vareslija, D., et al. 2016. Adaptation to AI therapy in breast cancer can induce dynamic alterations in ER activity resulting in estrogen independent metastatic tumours. *Clin. Cancer Res.* 22: 2765-2777.
2. Li, A., et al. 2022. E2F1-induced microRNA-224-5p expression is associated with hepatocellular carcinoma cell migration, invasion and epithelial-mesenchymal transition via MREG. *Oncol. Lett.* 23: 82.

STORAGE

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