

REM (24E4): sc-58472

BACKGROUND

Rad and Gem related GTP binding protein (REM) is a member of the RGK subfamily of Ras-like GTPases that also includes Rad, REM2 and Gem/Kir. REM is a phosphorylated protein that is highly expressed in cardiac muscle and moderately expressed in lung, kidney and skeletal muscle. REM associates with several 14-3-3 isoforms as well as with calmodulin in a calcium-dependent manner. REM mediates two distinct signal transduction pathways that regulate both cytoskeletal reorganization and voltage-gated calcium channel activity. REM decreases the current that passes through cardiac voltage-gated L-type Ca channels (Ca_v). Overexpression of REM may result in the development of cytoplasmic processes, reorganization of the actin cytoskeleton, reduction in focal adhesion size and an elongated or dendritic-like cell morphology.

REFERENCES

- Finlin, B.S. and Andres, D.A. 1997. REM is a new member of the Rad- and Gem/Kir Ras-related GTP-binding protein family repressed by lipopolysaccharide stimulation. *J. Biol. Chem.* 272: 21982-21988.
- Finlin, B.S. and Andres, D.A. 1999. Phosphorylation-dependent association of the Ras-related GTP-binding protein REM with 14-3-3 proteins. *Arch. Biochem. Biophys.* 368: 401-412.
- Finlin, B.S., et al. 2000. REM2, a new member of the REM/Rad/Gem/Kir family of Ras-related GTPases. *Biochem. J.* 347: 223-231.
- Pan, J.Y., et al. 2000. Ges, a human GTPase of the Rad/Gem/Kir family, promotes endothelial cell sprouting and cytoskeleton reorganization. *J. Cell Biol.* 149: 1107-1116.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610388. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Finlin, B.S., et al. 2003. Regulation of voltage-gated calcium channel activity by the REM and Rad GTPases. *Proc. Natl. Acad. Sci. USA* 100: 14469-14474.
- Beguín, P., et al. 2005. Nuclear sequestration of β subunits by Rad and REM is controlled by 14-3-3 and calmodulin and reveals a novel mechanism for Ca^{2+} channel regulation. *J. Mol. Biol.* 355: 34-46.
- Andres, D.A., et al. 2006. Analyses of REM/RGK signaling and biological activity. *Meth. Enzymol.* 407: 484-498.
- Crump, S.M., et al. 2006. L-type calcium channel α subunit and protein kinase inhibitors modulate REM-mediated regulation of current. *Am. J. Physiol. Heart Circ. Physiol.* 291: H1959-H1971.

CHROMOSOMAL LOCATION

Genetic locus: REM1 (human) mapping to 20q11.21; Rem1 (mouse) mapping to 2 H1.

SOURCE

REM (24E4) is a mouse monoclonal antibody raised against recombinant REM of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 1% glycerol.

APPLICATIONS

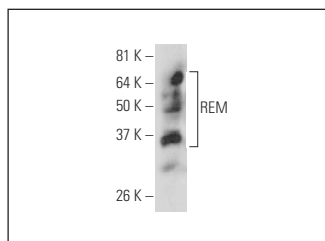
REM (24E4) is recommended for detection of REM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for REM siRNA (h): sc-63351, REM siRNA (m): sc-63352, REM shRNA Plasmid (h): sc-63351-SH, REM shRNA Plasmid (m): sc-63352-SH, REM shRNA (h) Lentiviral Particles: sc-63351-V and REM shRNA (m) Lentiviral Particles: sc-63352-V.

Molecular Weight of REM: 39 kDa.

Positive Controls: C2C12 whole cell lysate: sc-364188.

DATA



REM (24E4): sc-58472. Western blot analysis of REM expression in C2C12 whole cell lysate.

SELECT PRODUCT CITATIONS

- Fabbro, A., et al. 2013. Adhesion to carbon nanotube conductive scaffolds forces action-potential appearance in immature rat spinal neurons. *PLoS ONE* 8: e73621.
- Beqollari, D., et al. 2015. Functional assessment of three Rem residues identified as critical for interactions with Ca^{2+} channel β subunits. *Pflugers Arch.* 467: 2299-2306.
- Puckerin, A.A., et al. 2016. Similar molecular determinants on Rem mediate two distinct modes of inhibition of $Ca_v1.2$ channels. *Channels* 10: 379-394.

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.