SANTA CRUZ BIOTECHNOLOGY, INC.

REM2 (D-12): sc-514898

BACKGROUND

REM2 (RAS (RAD and GEM)-like GTP binding 2) is a 340 amino acid cell membrane protein that functions as a GTPase and belongs to the RGK family as well as the small GTPase superfamily. A suppressor of the p53 pathway, REM2 also mediates the fibroblastic growth factor 2 (FGF-2) signaling pathway and is involved in maintaining the proliferation of human embryonic stem cells. Expressed in kidney and brain, REM2 is encoded by a gene that maps to human chromosome 14q11.2. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. 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.
2. Avramopoulos, D., et al. 2005. Linkage to chromosome 14q in Alzheimer's disease (AD) patients without psychotic symptoms. Am. J. Med. Genet. B Neuropsychiatr. Genet. 132B: 9-13.
3. Finlin, B.S., et al. 2005. Regulation of L-type Ca^{2+} channel activity and Insulin secretion by the Rem2 GTPase. J. Biol. Chem. 280: 41864-41871.
4. Bierings, R., et al. 2008. An endothelial cell genetic screen identifies the GTPase Rem2 as a suppressor of p19ARF expression that promotes endothelial cell proliferation and angiogenesis. J. Biol. Chem. 283: 4408-4416.
5. Larner, A.J. and Doran, M. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. J. Alzheimers Dis. 17: 259-265.
6. Topic, A., et al. 2009. α-1-antitrypsin phenotypes in adult liver disease patients. Ups. J. Med. Sci. 114: 228-234.
7. Edel, M.J., et al. 2010. Rem2 GTPase maintains survival of human embryonic stem cells as well as enhancing reprogramming by regulating p53 and cyclin D1. Genes Dev. 24: 561-573.

CHROMOSOMAL LOCATION

Genetic locus: REM2 (human) mapping to 14q11.2; Rem2 (mouse) mapping to 14 C3.

SOURCE

REM2 (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 309-326 near the C-terminus of REM2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514898 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

REM2 (D-12) is recommended for detection of REM2 of mouse, rat and 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 REM2 siRNA (h): sc-92154, REM2 siRNA (m): sc-152799, REM2 shRNA Plasmid (h): sc-92154-SH, REM2 shRNA Plasmid (m): sc-152799-SH, REM2 shRNA (h) Lentiviral Particles: sc-92154-V and REM2 shRNA (m) Lentiviral Particles: sc-152799-V.

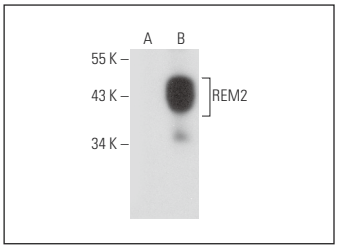
Molecular Weight of REM2: 37 kDa.

Positive Controls: REM2 (m): 293T Lysate: sc-123060.

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



REM2 (D-12): sc-514898. Western blot analysis of REM2 expression in non-transfected: sc-117752 (**A**) and mouse REM2 transfected: sc-123060 (**B**) 293T whole cell lysates.

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.