SANTA CRUZ BIOTECHNOLOGY, INC.

Mog1p (C-2): sc-393574

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The small Ras-related protein, Ran, also called TC4, is a nuclear GTPase implicated in a diverse array of cellular processes including DNA replication, entry into and exit from mitosis and the transport of RNA and proteins through the nuclear pore complex. Mog1p, also known as RanGNRF (Ran guanine nucleotide release factor) or Ran-binding protein MOG1, is a 186 amino acid protein that shuttles between the nucleus and the cytoplasm and is thought to regulate the intracellular trafficking of Ran. Mog1p has been found to be a monomer that interacts with Ran and Na^+ CP type Vα, as well as forms a complex with Ran and Ran BP-1. Mog1p exists as four isoforms produced by alternative splicing events, with isoforms one and two being expressed ubiquitously.

REFERENCES

1. Moroianu, J. and Blobel, G. 1995. Protein export from the nucleus requires the GTPase Ran and GTP hydrolysis. Proc. Natl. Acad. Sci. USA 92: 4318-4322.
2. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in $CD34^+$ hematopoietic stem/progenitor cells. Genome Res. 10: 1546-1560.
3. Steggerda, S.M. and Paschal, B.M. 2000. The mammalian Mog1 protein is a guanine nucleotide release factor for Ran. J. Biol. Chem. 275: 23175-23180.
4. Marfatia, K.A., et al. 2001. Identification and characterization of the human MOG1 gene. Gene 266: 45-56.
5. Steggerda, S.M. and Paschal, B.M. 2001. Identification of a conserved loop in Mog1 that releases GTP from Ran. Traffic 2: 804-811.
6. Bradford, J.R., et al. 2006. Insights into protein-protein interfaces using a Bayesian network prediction method. J. Mol. Biol. 362: 365-386.
7. Xu, Q., et al. 2006. Crystal structure of an ORFan protein (TM1622) from *Thermotoga maritima* at 1.75 A resolution reveals a fold similar to the Ran-binding protein Mog1p. Proteins 65: 777-782.
8. Wu, L., et al. 2008. Identification of a new co-factor, MOG1, required for the full function of cardiac sodium channel $Na_v1.5$. J. Biol. Chem. 283: 6968-6978.

CHROMOSOMAL LOCATION

Genetic locus: RANGRF (human) mapping to 17p13.1; Rangrf (mouse) mapping to 11 B3.

SOURCE

Mog1p (C-2) is a mouse monoclonal antibody raised against amino acids 11-88 mapping near the N-terminus of Mog1p of human origin.

PRODUCT

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

APPLICATIONS

Mog1p (C-2) is recommended for detection of Mog1p 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 Mog1p siRNA (h): sc-75808, Mog1p siRNA (m): sc-75809, Mog1p shRNA Plasmid (h): sc-75808-SH, Mog1p shRNA Plasmid (m): sc-75809-SH, Mog1p shRNA (h) Lentiviral Particles: sc-75808-V and Mog1p shRNA (m) Lentiviral Particles: sc-75809-V.

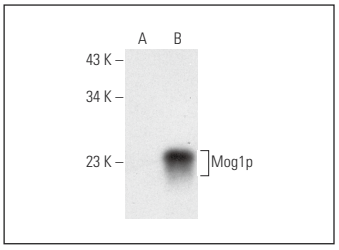
Molecular Weight of Mog1p: 20 kDa.

Positive Controls: Mog1p (m): 293T Lysate: sc-125628.

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



Mog1p (C-2): sc-393574. Western blot analysis of Mog1p expression in non-transfected: sc-117752 (**A**) and mouse Mog1p transfected: sc-125628 (**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.