

# Mog1p (D-20): sc-68992

## 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<sup>+</sup> 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

- 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.
- Zhang, Q.H., Ye, M., Wu, X.Y., Ren, S.X., Zhao, M., Zhao, C.J., Fu, G., Shen, Y., Fan, H.Y., Lu, G., Zhong, M., Xu, X.R., Han, Z.G., Zhang, J.W., Tao, J., Huang, Q.H., Zhou, J., Hu, G.X., Gu, J., Chen, S.J. and Chen, Z. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34<sup>+</sup> hematopoietic stem/progenitor cells. *Genome Res.* 10: 1546-1560.
- 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.
- Marfatia, K.A., Harreman, M.T., Fanara, P., Vertino, P.M. and Corbett, A.H. 2001. Identification and characterization of the human MOG1 gene. *Gene* 266: 45-56.
- Steggerda, S.M. and Paschal, B.M. 2001. Identification of a conserved loop in Mog1 that releases GTP from Ran. *Traffic* 2: 804-811.
- Bradford, J.R., Needham, C.J., Bulpitt, A.J. and Westhead, D.R. 2006. Insights into protein-protein interfaces using a Bayesian network prediction method. *J. Mol. Biol.* 362: 365-386.
- Xu, Q., Krishna, S.S., McMullan, D., Schwarzenbacher, R., Miller, M.D., Abdubek, P., Agarwalla, S., Ambing, E., Astakhova, T., Axelrod, H.L., Canaves, J.M., Carlton, D., Chiu, H.J., Clayton, T., DiDonato, M. Duan, L., Elsliger, M.A., Feuerhelm, J., Grzechnik, S.K, Hale, J., Hampton, E., et al. 2006. Crystal structure of an ORFan protein (TM1622) from *Thermotoga maritima* at 1.75 Å resolution reveals a fold similar to the Ran-binding protein Mog1p. *Proteins* 65: 777-782.
- Wu, L., Yong, S.L., Fan, C., Ni, Y., Yoo, S., Zhang, T., Zhang, X., Obejero-Paz, C.A., Rho, H.J., Ke, T., Szafranski, P., Jones, S.W., Chen, Q. and Wang, Q.K. 2008. Identification of a new co-factor, MOG1, required for the full function of cardiac sodium channel Nav 1.5. *J. Biol. Chem.* 283: 6968-6978.

## CHROMOSOMAL LOCATION

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

## SOURCE

Mog1p (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Mog1p of human origin.

## 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-68992 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Mog1p (D-20) is recommended for detection of Mog1p 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).

Mog1p (D-20) is also recommended for detection of Mog1p in additional species, including equine, canine and bovine.

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.

## 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.

## RESEARCH USE

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


 MONOS  
 Satisfaction  
 Guaranteed

Try **Mog1p (F-8): sc-398128** or **Mog1p (C-2): sc-393574**, our highly recommended monoclonal alternatives to Mog1p (D-20).