

# MGA (MGA6A4H5): sc-81105

## BACKGROUND

Myc regulation of cell proliferation and differentiation involves a family of related transcription factors. One such factor, Max, is an obligate heterodimeric partner for Myc and can also form heterodimers with proteins of the Mad family (Mad 1, Mxi1, Mad 3, Mad 4, Mnt and MGA). These dimers bind to the E-box sequence CACGTG in order to regulate cell growth, proliferation and apoptosis. MGA (Max gene associated), also known as MAD5 or MXD5 (Max dimerization protein 5), is a distinct member of the Mad family. Unlike Myc, Mad and Mnt proteins, MGA contains a Myc-like bHLHZip motif and a T-box DNA-binding domain. This suggests that MGA is capable of regulating the transcription of both Max-network and T-box target genes. In addition, MGA can function as both a transcriptional repressor and transcriptional activator. MGA is a widely expressed protein and a putative Myc oncoprotein antagonist.

## REFERENCES

- Hurlin, P.J., Steingrimsson, E., Copeland, N.G., Jenkins, N.A. and Eisenman, R.N. 2000. MGA, a dual-specificity transcription factor that interacts with Max and contains a T-domain DNA-binding motif. *EMBO J.* 18: 7019-7028.
- Grandori, C., Cowley, S.M., James, L.P. and Eisenman, R.N. 2001. The Myc/Max/Mad network and the transcriptional control of cell behavior. *Annu. Rev. Cell Dev. Biol.* 16: 653-699.
- Ogawa, H., Ishiguro, K., Gaubatz, S., Livingston, D.M. and Nakatani, Y. 2002. A complex with chromatin modifiers that occupies E2F- and Myc-responsive genes in G<sub>0</sub> cells. *Science* 296: 1132-1136.
- Ansieau, S. and Leutz, A. 2002. The conserved Mynd domain of BS69 binds cellular and oncoviral proteins through a common PXLXP motif. *J. Biol. Chem.* 277: 4906-4910.
- Lardelli, M. 2003. The evolutionary relationships of zebrafish genes *tbx6*, *tbx16*/*spadetail* and *mga*. *Dev. Genes Evol.* 213: 519-522.
- Hurlin, P.J. and Huang, J. 2006. The Max-interacting transcription factor network. *Semin. Cancer Biol.* 16: 265-274.

## CHROMOSOMAL LOCATION

Genetic locus: MGA (human) mapping to 15q15.1.

## SOURCE

MGA (MGA6A4H5) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the C-terminus of MGA of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

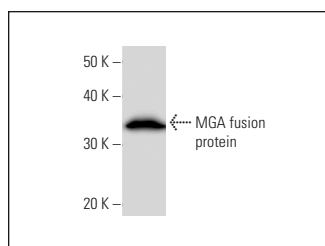
## APPLICATIONS

MGA (MGA6A4H5) is recommended for detection of MGA of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for MGA siRNA (h): sc-89945, MGA shRNA Plasmid (h): sc-89945-SH and MGA shRNA (h) Lentiviral Particles: sc-89945-V.

Molecular Weight of MGA: 333 kDa.

## DATA



MGA (MGA6A4H5): sc-81105. Western Blot analysis of human recombinant MGA fusion protein.

## SELECT PRODUCT CITATIONS

- Terragni, J., Nayak, G., Banerjee, S., Medrano, J.L., Graham, J.R., Brennan, J.F., Sepulveda, S. and Cooper, G.M. 2011. The E-box binding factors Max/Mnt, MITF, and USF1 act coordinately with FoxO to regulate expression of proapoptotic and cell cycle control genes by phosphatidylinositol 3-kinase/Akt/glycogen synthase kinase 3 signaling. *J. Biol. Chem.* 286: 36215-36227.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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