

MAML2 (G-07): sc-100778

BACKGROUND

MAML2 (mastermind-like protein 2), also known as MAM2, MAM3 or MLL-MAML2, is a nuclear speckle protein that acts as a transcriptional co-activator for Notch receptors. The Notch signaling pathway influences cell fate by regulating the ability of precursor cells to properly respond to developmental signals. MAML2 is a member of the mastermind-like family of proteins that are human homologs of the *Drosophila melanogaster* mastermind protein. Through its N-terminal region, MAML2 interacts with the ankyrin repeats of the Notch proteins Notch 1, Notch 2, Notch 3 and Notch 4. This interaction leads to formation of a DNA-binding complex with the Notch proteins and RBP-J κ ; a complex that can then induce HES1 gene expression. While the N-terminal domain of MAML2 is essential for proper Notch binding, the C-terminal domain of MAML2 is essential for transcriptional activation. A chromosomal aberration involving the gene encoding MAML2 is implicated in mucoepidermoid carcinomas, clear cell hidradenomas and benign Warthin tumors.

REFERENCES

1. Wu, L., et al. 2002. Identification of a family of mastermind-like transcriptional co-activators for mammalian Notch receptors. *Mol. Cell. Biol.* 22: 7688-7700.
2. Lin, S.E., et al. 2002. Identification of new human mastermind proteins defines a family that consists of positive regulators for Notch signaling. *J. Biol. Chem.* 277: 50612-50620.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607537. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Wu, L. and Griffin, J.D. 2004. Modulation of Notch signaling by mastermind-like (MAML) transcriptional co-activators and their involvement in tumorigenesis. *Semin. Cancer Biol.* 14: 348-356.
5. Katoh, M. and Katoh, M. 2006. Wnt antagonist, Dkk-2, is a Notch signaling target in intestinal stem cells: augmentation of a negative regulation system for canonical Wnt signaling pathway by the Notch-Dkk-2 signaling loop in primates. *Int. J. Mol. Med.* 19: 197-201.
6. William, D.A., et al. 2007. Identification of oscillatory genes in somitogenesis from functional genomic analysis of a human mesenchymal stem cell model. *Dev. Biol.* 305: 172-186.
7. Wu, L., et al. 2007. The transcriptional co-activator MAML1 is required for Notch 2-mediated marginal zone B cell development. *Blood* 110: 3618-3623.
8. Bell, D., et al. 2008. CRTC1/MAML2 fusion transcript in Warthin's tumor and mucoepidermoid carcinoma: evidence for a common genetic association. *Genes Chromosomes Cancer* 47: 309-314.
9. Fehr, A., et al. 2008. A closer look at Warthin tumors and the t(11;19). *Cancer Genet. Cytogenet.* 180: 135-139.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: MAML2 (human) mapping to 11q21.

SOURCE

MAML2 (G-07) is a mouse monoclonal antibody raised against recombinant MAML2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MAML2 (G-07) is recommended for detection of MAML2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAML2 siRNA (h): sc-75742, MAML2 shRNA Plasmid (h): sc-75742-SH and MAML2 shRNA (h) Lentiviral Particles: sc-75742-V.

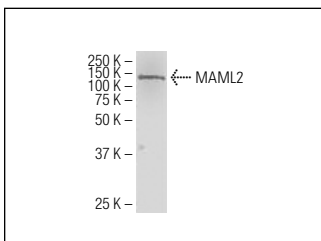
Molecular Weight of MAML2: 125 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



MAML2 (G-07): sc-100778. Western blot analysis of MAML2 expression in MCF7 whole cell lysate.

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.