

MAML3 (797C2a): sc-81104

BACKGROUND

MAML3 (mastermind-like protein 3) is a nuclear speckle protein that acts as a transcriptional coactivator for Notch receptors. The Notch signaling pathway influences cell fate by regulating the ability of precursor cells to properly respond to developmental signals. MAML3 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, MAML3 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 MAML3 is essential for proper Notch binding, the C-terminal domain of MAML3 is essential for transcriptional activation. Due to its involvement in cell signaling and transcriptional activation, upregulation of MAML3 is thought to be involved in oncogenesis.

REFERENCES

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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: 608991. 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, DKK2, is a Notch signaling target in intestinal stem cells: augmentation of a negative regulation system for canonical WNT signaling pathway by the Notch-DKK2 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 Notch2-mediated marginal zone B cell development. *Blood* 110: 3618-3623.

CHROMOSOMAL LOCATION

Genetic locus: MAML3 (human) mapping to 4q31.1.

SOURCE

MAML3 (797C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the N-terminus of MAML3 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

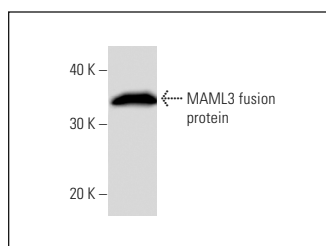
MAML3 (797C2a) is recommended for detection of MAML3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for MAML3 siRNA (h): sc-75744, MAML3 shRNA Plasmid (h): sc-75744-SH and MAML3 shRNA (h) Lentiviral Particles: sc-75744-V.

Molecular Weight of MAML3 unprocessed precursor: 150 kDa.

Molecular Weight of posttranslationally modified MAML3: 170 kDa.

DATA



MAML3 (797C2a): sc-81104. Western Blot analysis of human recombinant MAML3 fusion protein.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.