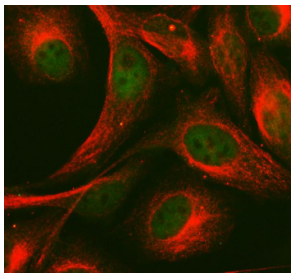
MAML1 Antibody / Mastermind-like protein 1 (FY12765)

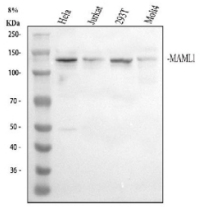
Catalog No.	Formulation	Size
FY12765	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

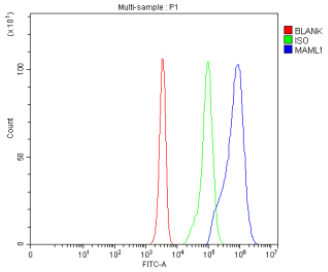
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q92585
Applications	Western Blot : 0.25-0.5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This MAML1 antibody is available for research use only.



Immunofluorescent staining of FFPE human HeLa cells with MAML1 antibody (green) and Alpha Tubulin mAb (red). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot analysis of MAML1 using anti-MAML1 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: human MOLT4 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MAML1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The observed band at ~130 kDa is consistent with the full-length, post-translationally modified form of MAML1 (predicted ~108 kDa), as previously reported for nuclear MAML1 in Notch signaling studies.



Flow cytometry analysis of fixed and permeabilized human Jurkat cells with MAML1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= MAML1 antibody.

Description

MAML1 antibody detects Mastermind-like protein 1, a transcriptional coactivator that plays a key role in the Notch signaling pathway, which regulates cell fate determination, differentiation, and proliferation. Encoded by the MAML1 gene on chromosome 5q35.3, this nuclear protein acts as a core component of the Notch transcriptional activation complex. Upon Notch receptor activation and nuclear translocation of the Notch intracellular domain (NICD), MAML1 binds NICD and the transcription factor CSL (CBF1/RBPJ), forming a ternary complex that recruits additional coactivators to initiate target gene transcription.

MAML1 contains an N-terminal basic domain responsible for binding NICD and CSL, a central acidic transcriptional activation domain, and a C-terminal domain that mediates interactions with additional transcription factors and coactivators such as p300/CBP. Through these interactions, MAML1 promotes transcription of Notch target genes including HES1, HEY1, and MYC, which are involved in cell differentiation and proliferation. Because Notch signaling is crucial for tissue development and homeostasis, MAML1 serves as a master regulator of developmental pathways across multiple cell types, including neural, hematopoietic, and epithelial lineages.

The MAML1 antibody is widely used in molecular biology, developmental biology, and cancer research to assess Notch pathway activation and transcriptional regulation. Western blot analysis typically identifies a 115 kilodalton band corresponding to MAML1, while immunofluorescence reveals nuclear localization that overlaps with Notch pathway components. This antibody enables the study of transcriptional coactivation events and gene regulation in Notch-mediated signaling contexts.

Beyond Notch signaling, MAML1 also functions as a coactivator for other transcriptional regulators such as MEF2C, p53, and beta-catenin, broadening its impact on gene networks related to cell growth and apoptosis. Dysregulation of MAML1 has been linked to oncogenic transformation, particularly in leukemia, glioma, and breast cancer, where aberrant Notch signaling drives uncontrolled proliferation. The MAML1 antibody provides a reliable tool for investigating transcriptional complexes and signaling crosstalk mechanisms. NSJ Bioreagents offers this antibody validated for its applications, ensuring reproducibility and specificity for transcriptional and signaling studies.

Application Notes

Optimal dilution of the MAML1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MAML1 recombinant protein (Position: M1-K998) was used as the immunogen for the MAML1 antibody.

Storage

After reconstitution, the MAML1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.