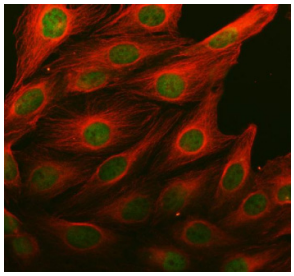
MSL1 Antibody / Male-specific lethal 1 (FY12574)

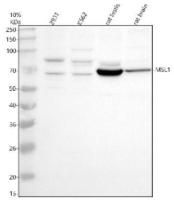
Catalog No.	Formulation	Size
FY12574	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

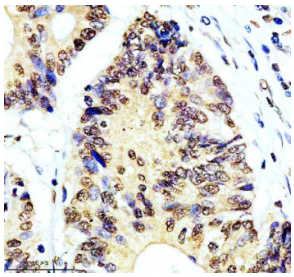
Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q68DK7
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This MSL1 antibody is available for research use only.



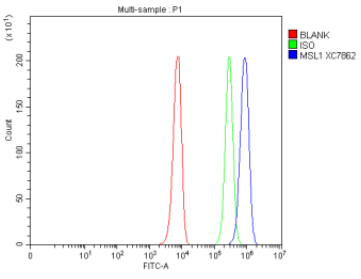
Immunofluorescent staining of MSL1 using anti-MSL1 antibody (green) and anti-Beta Tubulin antibody (red). MSL1 was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-MSL1 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of MSL1 using anti-MSL1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human 293T whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: rat testis tissue lysates, Lane 4: rat brain tissue 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-MSL1 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 an ECL Plus Western Blotting Substrate. A specific band was detected for MSL1 at approximately 67 kDa. The expected molecular weight of MSL1 is ~67 kDa.



Immunohistochemical staining of MSL1 using anti-MSL1 antibody. MSL1 was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MSL1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Flow Cytometry analysis of K562 cells using anti-MSL1 antibody. Overlay histogram showing K562 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-MSL1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

MSL1 antibody detects Male-specific lethal 1 homolog, a chromatin-associated protein that forms part of the MSL (male-specific lethal) complex responsible for histone acetylation and dosage compensation. Originally discovered in Drosophila, the human MSL complex includes MSL1, MSL2, MSL3, and the histone acetyltransferase KAT8 (also known as MOF). Together, these proteins catalyze histone H4 lysine 16 acetylation, a mark associated with transcriptional activation. The MSL1 antibody is widely used in chromatin biology and epigenetic regulation studies to explore histone modification and gene dosage balance.

MSL1 is encoded by the MSL1 gene located on human chromosome Xq28. The protein is approximately 618 amino acids long and contains coiled-coil regions that mediate interactions with MSL2 and MSL3, stabilizing the MSL complex structure. MSL1 localizes primarily to euchromatic regions of the nucleus and contributes to the spreading of acetylated histone marks along active genes. The protein serves as a scaffold, ensuring the recruitment and correct assembly of other MSL subunits onto chromatin.

The MSL1 antibody detects a 75 kilodalton band by western blot and demonstrates nuclear staining in cells undergoing active transcription. Through its role in facilitating KAT8-dependent histone H4 acetylation, MSL1 influences global chromatin accessibility and transcriptional output. Loss of MSL1 disrupts histone acetylation patterns and leads to altered gene expression profiles, particularly affecting dosage-sensitive genes on the X chromosome.

Beyond its role in dosage compensation, MSL1 participates in general transcriptional regulation across autosomes. It has been linked to stem cell differentiation, stress responses, and genome organization. Abnormal expression or mutation of

MSL1 alters chromatin structure and is associated with cancer and neurodevelopmental disorders. As a regulator of chromatin state, MSL1 bridges histone modification machinery with transcriptional control mechanisms that shape epigenetic identity.

Because of its central function in chromatin remodeling and transcriptional activation, MSL1 serves as a valuable marker for studies of epigenetic regulation, gene dosage balance, and histone acetylation. NSJ Bioreagents provides a validated MSL1 antibody optimized for its applications, supporting research into histone modification, dosage compensation, and nuclear organization.

Application Notes

Optimal dilution of the MSL1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MSL1 recombinant protein (Position: Q218-K614) was used as the immunogen for the MSL1 antibody.

Storage

After reconstitution, the MSL1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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