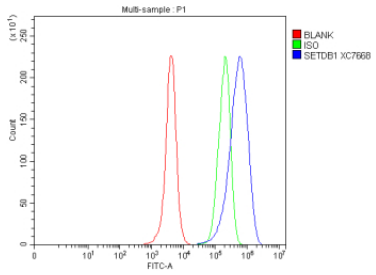
SETDB1 Antibody / Histone-lysine N-methyltransferase SETDB1 (FY12807)

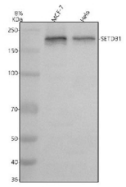
Catalog No.	Formulation	Size
FY12807	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q15047
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SETDB1 antibody is available for research use only.



Flow Cytometry analysis of HeLa cells using anti-SETDB1 antibody. Overlay histogram showing HeLa 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-SETDB1 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.



Western blot analysis of SETDB1 using anti-SETDB1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human MCF-7 whole cell lysates, Lane 2: human Hela 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-SETDB1 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. Although the predicted MW is ~143 kDa, SETDB1 is known to migrate at ~170-190 kDa on SDS-PAGE owing to post-translational modification (e.g., SUMOylation), consistent with prior reports.

Description

SETDB1 antibody detects Histone-lysine N-methyltransferase SETDB1, an enzyme responsible for methylating histone H3 at lysine 9 (H3K9), a key epigenetic mark associated with transcriptional repression and heterochromatin formation. Encoded by the SETDB1 gene on chromosome 1q21.3, this nuclear protein is part of the SET domain-containing family of histone methyltransferases and plays a central role in chromatin remodeling, gene silencing, and genome stability.

SETDB1 contains a SET domain conferring methyltransferase activity, a methyl-CpG-binding domain (MBD), and a tudor domain that facilitate chromatin targeting. It forms complexes with co-repressors such as KAP1 (TRIM28) and HP1, directing H3K9 trimethylation at retroelements, developmental genes, and repetitive sequences. Through this mechanism, SETDB1 maintains transcriptional repression and contributes to X-chromosome inactivation, embryonic stem cell identity, and defense against endogenous retroviral elements.

The SETDB1 antibody is widely used in epigenetics, developmental biology, and cancer research to examine histone methylation and transcriptional silencing. Western blot analysis identifies a 170 kilodalton band corresponding to SETDB1, while immunofluorescence reveals punctate nuclear staining colocalizing with heterochromatin regions. This antibody enables researchers to assess chromatin states, epigenetic modifications, and silencing pathways across diverse cell types.

Aberrant SETDB1 expression and activity have been linked to multiple cancers, including melanoma, glioma, and lung carcinoma, where it promotes oncogenic transcriptional reprogramming and genomic instability. SETDB1 overexpression can also suppress immune responses by silencing interferon-stimulated genes. The SETDB1 antibody provides a precise reagent for studying epigenetic repression, gene regulation, and chromatin-based disease mechanisms. NSJ Bioreagents validates this antibody for its applications, ensuring high specificity for epigenetic and transcriptional research.

Application Notes

Optimal dilution of the SETDB1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SETDB1 recombinant protein (Position: E20-E871) was used as the immunogen for the SETDB1 antibody.

Storage

After reconstitution, the SETDB1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.