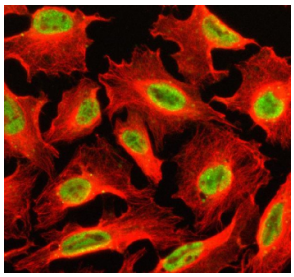
SETBP1 Antibody / SET binding protein 1 (FY12540)

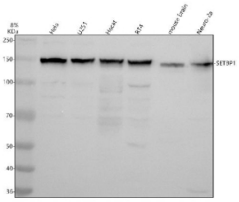
Catalog No.	Formulation	Size
FY12540	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

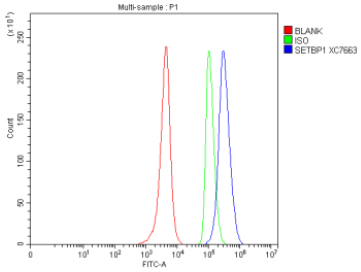
Availability	1-2 days
Species Reactivity	Human, Mouse
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9Y6X0
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SETBP1 antibody is available for research use only.



Immunofluorescent staining of SETBP1 using anti-SETBP1 antibody (green) and anti-Beta Tubulin antibody (red). SETBP1 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-SETBP1 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 SETBP1 using anti-SETBP1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human U251 whole cell lysates, Lane 3: human Hacat whole cell lysates, Lane 4: human RT4 whole cell lysates, Lane 5: mouse brain tissue lysates, Lane 6: mouse Neuro-2a 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-SETBP1 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. SETBP1 (~170 kDa predicted) was detected as a single band at 145-150 kDa, consistent with the known anomalous migration of this acidic, intrinsically disordered nuclear adaptor protein.



Flow Cytometry analysis of SH-SY5Y cells using anti-SETBP1 antibody. Overlay histogram showing SH-SY5Y 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-SETBP1 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

SETBP1 antibody detects SET binding protein 1, a nuclear protein that interacts with the SET oncoprotein to regulate chromatin structure, gene expression, and cellular proliferation. SETBP1 modulates transcriptional programs controlling stem cell maintenance and oncogenic transformation. The SETBP1 antibody is used in studies of leukemia, developmental syndromes, and transcriptional regulation.

SETBP1 is encoded by the SETBP1 gene on human chromosome 18q12.3. The protein is approximately 170 kilodaltons and contains multiple AT-hook motifs for DNA binding, nuclear localization signals, and a SET-binding domain that mediates interaction with the SET protein, a known inhibitor of protein phosphatase 2A (PP2A). Through this interaction, SETBP1 indirectly modulates PP2A activity, influencing cell cycle progression and epigenetic control.

The SETBP1 antibody detects a 145-150 kilodalton band by western blot and shows nuclear localization under immunofluorescence. SETBP1 acts as a transcriptional regulator that binds GC-rich promoter regions to enhance expression of target genes, including HOXA cluster members associated with hematopoietic differentiation and leukemogenesis. Mutations that stabilize SETBP1 lead to aberrant accumulation, transcriptional reprogramming, and malignant transformation in myelodysplastic syndromes and acute myeloid leukemia.

In addition to cancer, germline mutations in SETBP1 cause Schinzel-Giedion syndrome, a severe developmental disorder characterized by craniofacial abnormalities and neurological impairment. These mutations increase SETBP1 stability, disrupt normal transcriptional repression, and impair neuronal differentiation. SETBP1 also interacts with chromatin-modifying complexes to coordinate histone acetylation and methylation status.

As a molecular bridge between SET and chromatin, SETBP1 integrates signaling pathways that regulate proliferation, apoptosis, and gene expression. NSJ Bioreagents provides a validated SETBP1 antibody optimized for western blot, immunocytochemistry, and chromatin studies, facilitating research into oncogenic transcriptional regulation and epigenetic mechanisms in disease.

Application Notes

Optimal dilution of the SETBP1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SETBP1 recombinant protein (Position: S172-A1519) was used as the immunogen for the SETBP1 antibody.

Storage

After reconstitution, the SETBP1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.