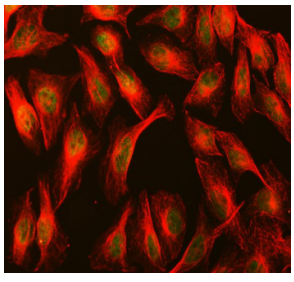
MBTD1 Antibody / Malignant Brain Tumor domain containing 1 (FY12257)

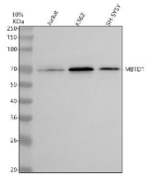
Catalog No.	Formulation	Size
FY12257	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

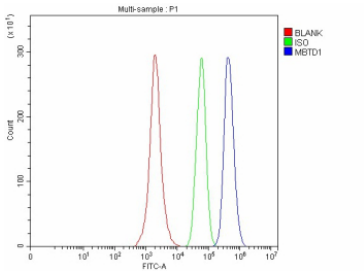
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q05BQ5
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This MBTD1 antibody is available for research use only.



Immunofluorescent staining of MBTD1 using anti-MBTD1 antibody (green) and anti-Beta Tubulin antibody (red). MBTD1 was detected in immunocytochemical section of U2OS cell. 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-MBTD1 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 MBTD1 using anti-MBTD1 antibody. Lane 1: human Jurkat whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human SH-SY5Y 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-MBTD1 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. A specific band was detected for MBTD1 at approximately 71 kDa. The expected band size for MBTD1 is at 71 kDa.



Flow Cytometry analysis of SH-SY5Y cells using anti-MBTD1 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-MBTD1 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

MBTD1 antibody detects Malignant Brain Tumor domain containing 1, encoded by the MBTD1 gene on chromosome 17q21.33. MBTD1 antibody is widely used in research on chromatin remodeling, transcription regulation, and DNA repair. MBTD1 belongs to the malignant brain tumor (MBT) domain-containing protein family, characterized by their ability to bind methylated histone lysine residues. MBTD1 functions in transcriptional repression and DNA damage response, integrating chromatin state with cellular processes.

Structurally, MBTD1 is a ~65 kDa protein containing four MBT domains that recognize methylated histone marks, particularly H4K20me1 and H4K20me2. It also features protein-protein interaction motifs that recruit corepressor complexes. MBTD1 is localized in the nucleus and associates with chromatin at transcriptionally repressed regions. Alternative isoforms expand regulatory diversity.

Functionally, MBTD1 regulates chromatin compaction and gene silencing. It participates in Polycomb group-mediated repression, maintaining developmental gene expression programs. MBTD1 also contributes to DNA repair, particularly homologous recombination, by recruiting repair factors to sites of double-strand breaks. Researchers employ MBTD1 antibody to study chromatin regulation, transcriptional repression, and DNA repair pathways.

Clinically, MBTD1 has been implicated in cancer and developmental disorders. Chromosomal translocations involving MBTD1 and ZMYND11 generate fusion proteins associated with acute myeloid leukemia. MBTD1 mutations are linked to neurodevelopmental defects, reflecting its essential role in gene regulation. Because of its role in histone mark recognition, MBTD1 is being investigated as a potential target in epigenetic therapies. NSJ Bioreagents offers MBTD1 antibody to support chromatin and cancer research.

Experimentally, MBTD1 antibody is used in western blotting to detect the ~65 kDa protein, in immunohistochemistry to study nuclear expression, and in chromatin immunoprecipitation to analyze binding at histone-modified loci. Co-immunoprecipitation with MBTD1 antibody identifies corepressor complexes and repair factors.

Application Notes

Optimal dilution of the MBTD1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MBTD1 recombinant protein (Position: M1-D420) was used as the immunogen for the MBTD1 antibody.

Storage

After reconstitution, the MBTD1 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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