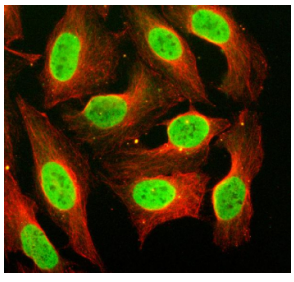
CBX6 Antibody / Chromobox protein homolog 6 (FY12930)

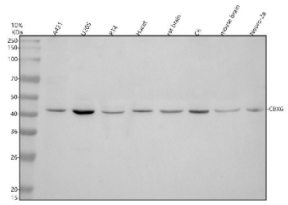
Catalog No.	Formulation	Size
FY12930	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

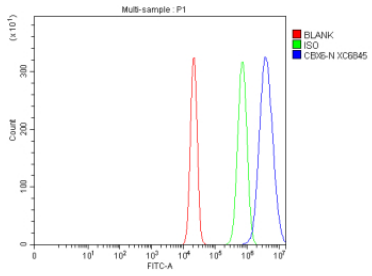
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O95503
Localization	Nuclear
Applications	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 CBX6 antibody is available for research use only.



Immunofluorescent staining of CBX6 using anti-CBX6 antibody (green) and anti-Beta Tubulin antibody (red). CBX6 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-CBX6 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 CBX6 using anti-CBX6 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human whole cell lysates, Lane 2: human U2OS whole cell lysates, Lane 3: human RT4 whole cell lysates, Lane 4: human Hacat whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat C6 whole cel lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse Neuro-2a whole cel 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-CBX6 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 CBX6 at approximately 44 kDa. The expected molecular weight of CBX6 is ~44 kDa.



Flow Cytometry analysis of RT4 cells using anti-CBX6 antibody. Overlay histogram showing RT4 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-CBX6 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

CBX6 antibody detects Chromobox protein homolog 6, a member of the chromobox family within the Polycomb group (PcG) proteins, which play a critical role in transcriptional repression and chromatin remodeling. The full UniProt recommended name is Chromobox protein homolog 6 (CBX6), with older or alternate designations including chromobox homolog 6, Polycomb group protein chromobox 6, and human homolog of Drosophila Polycomb protein. CBX6 is a nuclear protein involved in maintaining the repressed state of genes through the formation of polycomb repressive complexes (PRCs), particularly PRC1, which works in conjunction with PRC2 to regulate histone methylation states and gene silencing across development and cell differentiation.

CBX6 binds to trimethylated histone H3 at lysine 27 (H3K27me3), a histone modification mark associated with gene repression, serving as a reader of histone methylation marks and recruiting additional factors to maintain chromatin compaction. It contributes to establishing heritable transcriptional repression, ensuring stable lineage-specific expression patterns in embryonic stem cells and adult tissues. Dysregulation of CBX6 antibody targets, particularly in the Polycomb family, has been associated with aberrant cell proliferation and oncogenic transformation. Overexpression or misexpression of CBX6 has been observed in several cancer types, including hepatocellular carcinoma, prostate cancer, and gliomas, where it may influence epithelial-mesenchymal transition (EMT) and cancer stemness features.

In molecular biology and epigenetic research, CBX6 antibody is widely used for immunofluorescence, chromatin immunoprecipitation (ChIP), and western blot assays to examine Polycomb protein localization and function. It helps distinguish CBX6 from other chromobox homologs (CBX2, CBX4, CBX7, CBX8), each of which has distinct but sometimes overlapping genomic binding profiles and developmental roles. CBX6 has been reported to modulate PRC1 recruitment in concert with histone ubiquitination factors such as RNF2 and BMI1, and to act as a chromatin structural modulator linking histone marks to gene repression. The protein is essential in maintaining pluripotency, regulating HOX gene clusters, and ensuring proper cell fate decisions.

CBX6's gene, CBX6, is located on chromosome 22q13.1. It encodes a protein of approximately 412 amino acids, containing a conserved chromodomain responsible for histone binding and a C-terminal region that mediates protein-protein interactions within the PRC complex. Expression is ubiquitous but higher in testis, placenta, and certain cancerous

tissues. Loss-of-function mutations or altered methylation of the CBX6 promoter region can disrupt PRC targeting, influencing gene activation programs and tumor suppressor networks. Studies also show CBX6 modulates long noncoding RNA (lncRNA)-mediated gene silencing, including interactions with lncRNAs such as HOTAIR and MALAT1, further linking CBX6 to chromatin topology and transcriptional memory.

Because of its functional importance, CBX6 serves as a key biomarker in epigenetic and oncogenic signaling studies. NSJ Bioreagents provides validated reagents for detecting CBX6 in tissues across multiple applications including immunohistochemistry, immunoprecipitation, and ChIP-seq.

Application Notes

Optimal dilution of the CBX6 antibody should be determined by the researcher.

Immunogen

E.coli-derived human CBX6 recombinant protein (Position: D50-K236) was used as the immunogen for the CBX6 antibody.

Storage

After reconstitution, the CBX6 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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