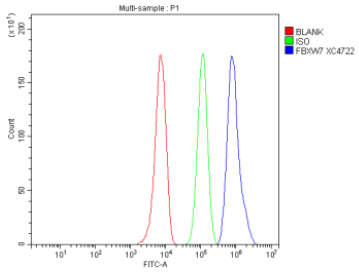
FBXW7 Antibody / F-box/WD repeat-containing protein 7 (FY12133)

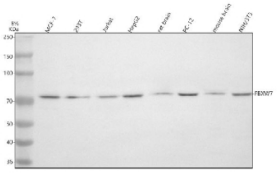
Catalog No.	Formulation	Size
FY12133	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
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	Q969H0
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This FBXW7 antibody is available for research use only.



Flow Cytometry analysis of HepG2 cells using anti-FBXW7 antibody. Overlay histogram showing HepG2 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-FBXW7 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 FBXW7 using anti-FBXW7 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 293T whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human HepG2 whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat PC-12 whole cell lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse Nih/3T3 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-FBXW7 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 FBXW7 at approximately 75 kDa. The expected band size for FBXW7 is at 75 kDa.

Description

FBXW7 antibody detects F-box/WD repeat-containing protein 7, encoded by the FBXW7 gene on chromosome 4q31.1. FBXW7 antibody is widely used to investigate this tumor suppressor protein, which functions as a substrate recognition component of the SCF (SKP1-CUL1-F-box protein) ubiquitin ligase complex. FBXW7 plays a central role in regulating proteasomal degradation of key cell cycle regulators and oncogenic proteins. By controlling turnover of cyclin E, c-Myc, Notch, mTOR, and Jun, FBXW7 maintains cell cycle integrity, suppresses uncontrolled proliferation, and modulates signaling pathways fundamental to development and tumorigenesis.

Structurally, FBXW7 contains three conserved domains: an F-box motif that mediates interaction with SKP1, WD40 repeats that form a propeller-like structure for substrate recognition, and dimerization regions that enhance binding affinity. The WD40 domain binds phosphorylated degrons in substrates, ensuring phosphorylation-dependent degradation. FBXW7 recognizes multiple oncoproteins via these motifs, linking post-translational modifications to proteasomal clearance. Isoforms generated by alternative splicingÂ—alpha, beta, and gammaÂ—differ in subcellular localization and tissue expression, broadening its regulatory scope.

FBXW7's tumor suppressor function is underscored by frequent mutations in cancers. Loss-of-function mutations destabilize the SCF complex and permit accumulation of oncogenic proteins, driving tumor progression. FBXW7 mutations are prevalent in colorectal, gastric, breast, endometrial, and T-cell acute lymphoblastic leukemias. Its inactivation contributes to chemoresistance, genomic instability, and poor prognosis. Conversely, intact FBXW7 promotes cell cycle arrest, apoptosis, and maintenance of stem cell homeostasis. Researchers rely on FBXW7 antibody to evaluate its expression, detect isoforms, and monitor degradation pathways of oncogenic substrates.

FBXW7 is also critical in developmental biology. It regulates Notch signaling during neural development, vascular morphogenesis, and stem cell differentiation. Disruption of FBXW7 in animal models results in embryonic lethality or tissue-specific developmental defects. Beyond cancer, FBXW7 contributes to neurological disorders and metabolic diseases by modulating protein degradation pathways. Its regulatory roles in mTOR signaling tie it to metabolism, autophagy, and aging-related processes.

Experimentally, FBXW7 antibody is applied in western blotting to detect isoform-specific expression, in immunohistochemistry to evaluate tumor samples, and in immunoprecipitation to analyze SCF complex formation. Studies using FBXW7 antibody confirm interactions with GSK3b-phosphorylated degrons and highlight dynamic regulation of substrates across cell cycle phases. NSJ Bioreagents provides FBXW7 antibody for cancer biology, proteostasis research, and translational studies exploring ubiquitin ligase function.

Application Notes

Optimal dilution of the FBXW7 antibody should be determined by the researcher.

Immunogen

E.coli-derived human FBXW7 recombinant protein (Position: D151-D591) was used as the immunogen for the FBXW7 antibody.

Storage

After reconstitution, the FBXW7 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.