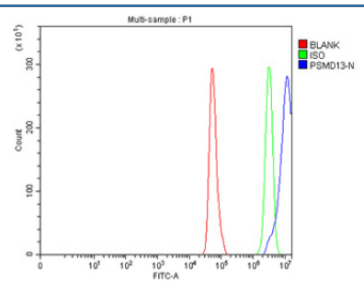
PSMD13 Antibody / 26S proteasome non-ATPase regulatory subunit 13 (FY12184)

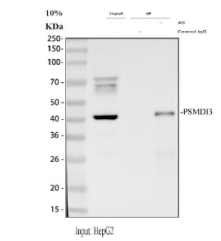
Catalog No.	Formulation	Size
FY12184	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

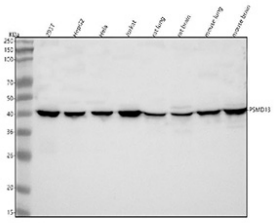
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9UNM6
Applications	Western Blot : 0.25-0.5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PSMD13 antibody is available for research use only.



Flow Cytometry analysis of Hela cells using anti-PSMD13 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-PSMD13 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 (Red line) was also used as a control.



Immunoprecipitating (IP) PSMD13 in HepG2 whole cell lysate. Western blot analysis of PSMD13 using anti-PSMD13 antibody; Lane 1: HepG2 whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-PSMD13 antibody in HepG2 whole cell lysate; Lane 3: anti-PSMD13 antibody (2ug) + HepG2 whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-PSMD13 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. A specific band was detected for PSMD13 at approximately 43 kDa. The expected band size for PSMD13 is at 43 kDa.



Western blot analysis of PSMD13 using anti-PSMD13 antibody. Lane 1: human 293T whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human Jurkat whole cell lysates, Lane 5: rat lung tissue lysates, Lane 6: rat brain tissue lysates, Lane 7: mouse lung tissue lysates, Lane 8: mouse brain 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-PSMD13 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 PSMD13 at approximately 43 kDa. The expected band size for PSMD13 is at 43 kDa.

Description

PSMD13 antibody detects 26S proteasome non-ATPase regulatory subunit 13, encoded by the PSMD13 gene on chromosome 11q22.3. PSMD13 antibody is commonly applied in studies of protein degradation, ubiquitin-proteasome system regulation, and cellular quality control. PSMD13, also known as RPN9, is a non-ATPase subunit of the 19S regulatory particle of the 26S proteasome. It contributes to substrate recognition, deubiquitination, and assembly of the proteasome complex. Expression is ubiquitous, reflecting its essential role in protein turnover and cellular homeostasis.

Structurally, PSMD13 is part of the base subcomplex of the 19S regulatory particle. It contains proteasome-specific domains that mediate interaction with ubiquitinated substrates and other proteasome subunits. PSMD13 is critical for correct assembly of the 19S complex, ensuring proper substrate unfolding and delivery to the 20S catalytic core. Its interactions with ATPases and deubiquitinases highlight its importance in coupling recognition and processing steps.

Functionally, PSMD13 regulates degradation of misfolded, damaged, or regulatory proteins by the proteasome. By supporting substrate recruitment and unfolding, it maintains protein homeostasis and regulates processes including cell cycle progression, apoptosis, and stress responses. Knockdown of PSMD13 impairs proteasome activity, leading to accumulation of ubiquitinated proteins and cellular stress. Researchers use PSMD13 antibody to study proteasome biology, protein quality control, and pathways involving ubiquitination.

Clinically, proteasome dysfunction is linked to neurodegeneration, cancer, and immune disorders. PSMD13 expression changes have been observed in Alzheimer's disease and Parkinson's disease, where proteostasis failure contributes to pathology. In cancer, altered proteasome activity supports tumor survival and resistance to stress. PSMD13 has been studied as a biomarker for disease states involving proteasome regulation. Therapeutic strategies targeting the proteasome, such as bortezomib, indirectly involve PSMD13 function by disrupting regulatory particle activity. NSJ Bioreagents provides PSMD13 antibody to facilitate proteasome and disease-related studies.

Experimentally, PSMD13 antibody is used in western blotting to detect the ~42 kDa protein, in immunofluorescence to study localization within proteasome-rich regions, and in immunoprecipitation to isolate 26S proteasomes. Immunohistochemistry with PSMD13 antibody allows evaluation of expression in tissues under stress or disease conditions.

Application Notes

Optimal dilution of the PSMD13 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PSMD13 recombinant protein (Position: E68-E364) was used as the immunogen for the PSMD13 antibody.

Storage

After reconstitution, the PSMD13 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.