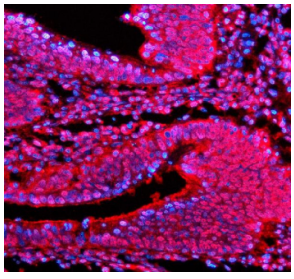
PSMD1 Antibody / 26S proteasome non-ATPase regulatory subunit 1 (FY12240)

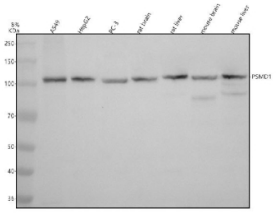
Catalog No.	Formulation	Size
FY12240	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

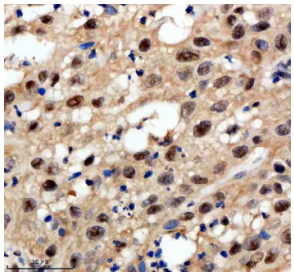
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q99460
Localization	Nuclear, cytoplasmic, extracellular
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunofluorescence: 5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This PSMD1 antibody is available for research use only.



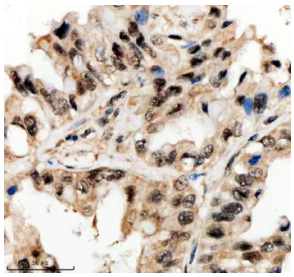
Immunofluorescent staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



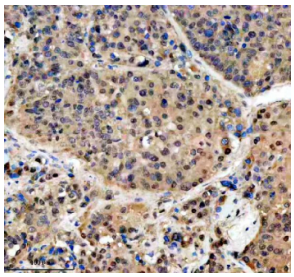
Western blot analysis of PSMD1 using anti-PSMD1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human PC-3 whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat liver tissue lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse liver 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-PSMD1 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 PSMD1 at approximately 106 kDa. The expected band size for PSMD1 is at 106 kDa.



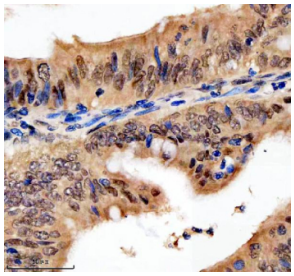
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human bladder cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



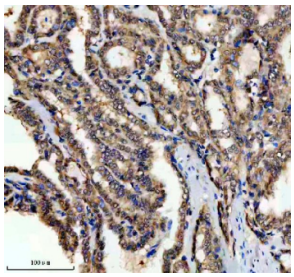
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



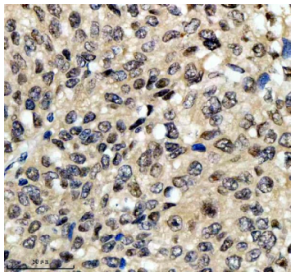
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



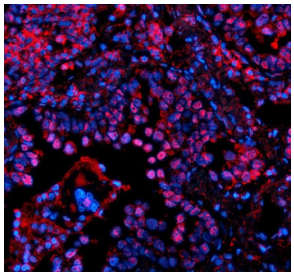
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



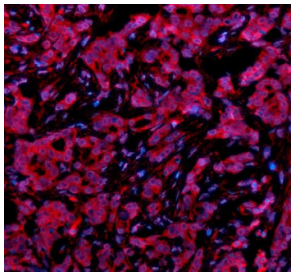
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human thyroid cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



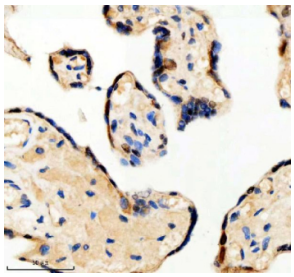
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human cervical cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



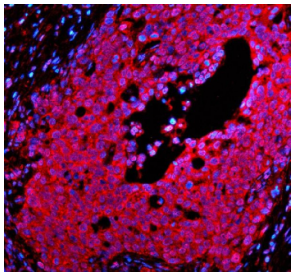
Immunofluorescent staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



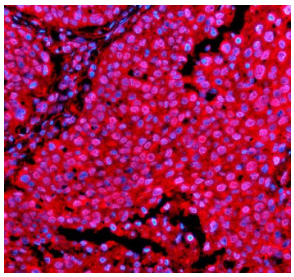
Immunofluorescent staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



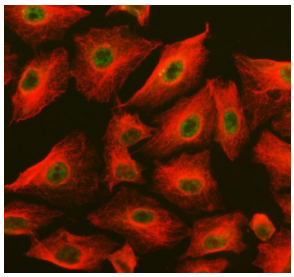
Immunohistochemical staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



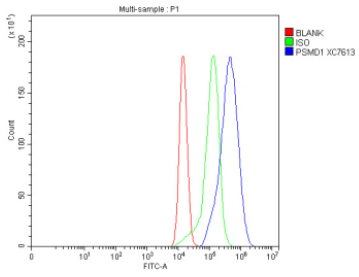
Immunofluorescent staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Immunofluorescent staining of PSMD1 using anti-PSMD1 antibody. PSMD1 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-PSMD1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Immunofluorescent staining of FFPE human A549 cells with PSMD1 antibody (green) and Beta Tubulin (red). HIER: steam section in pH6 citrate buffer for 20 min.



Flow cytometry analysis of fixed and permeabilized human A549 cells with PSMD1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PSMD1 antibody.

Description

PSMD1 antibody detects 26S proteasome non-ATPase regulatory subunit 1, encoded by the PSMD1 gene on chromosome 2q24.2. PSMD1 antibody is widely used in research on protein degradation, ubiquitin-proteasome system regulation, and cancer. PSMD1 is one of the largest subunits of the 19S regulatory particle of the 26S proteasome, a complex that degrades ubiquitinated proteins and maintains protein homeostasis. It plays a key role in substrate recognition, proteasome assembly, and regulation of proteolytic activity.

Structurally, PSMD1 is a ~106 kDa protein belonging to the proteasome non-ATPase subunit family. It contains multiple HEAT repeat motifs that mediate protein-protein interactions, helping scaffold the regulatory particle. PSMD1 interacts with other 19S subunits, including PSMD2 and PSMD4, to organize the lid structure and recruit deubiquitinating enzymes. Isoforms generated by alternative splicing provide functional flexibility.

Functionally, PSMD1 helps regulate substrate entry into the proteasome by controlling lid conformation and recruiting cofactors. It stabilizes the 19S regulatory particle, enabling efficient degradation of polyubiquitinated proteins. Knockdown of PSMD1 impairs proteasome function, leading to accumulation of misfolded proteins and activation of stress pathways. Researchers employ PSMD1 antibody to study proteostasis, protein quality control, and proteasome assembly.

Clinically, PSMD1 is implicated in neurodegeneration and cancer. Altered proteasome activity is a hallmark of diseases such as Parkinson's and Alzheimer's, where impaired protein clearance contributes to pathology. In cancer, elevated PSMD1 expression supports proliferation and survival by degrading tumor suppressors and regulating cell cycle proteins. Targeting proteasome components is a therapeutic strategy in multiple myeloma and other malignancies. NSJ Bioreagents provides PSMD1 antibody for proteasome research, neurodegeneration studies, and cancer biology.

Experimentally, PSMD1 antibody is used in western blotting to detect the ~106 kDa subunit, in immunoprecipitation to analyze proteasome complexes, and in immunofluorescence microscopy to study localization of the 26S proteasome.

Immunohistochemistry with PSMD1 antibody highlights differential expression in tumors versus normal tissues.

Application Notes

Optimal dilution of the PSMD1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PSMD1 recombinant protein (Position: R57-E822) was used as the immunogen for the PSMD1 antibody.

Storage

After reconstitution, the PSMD1 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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