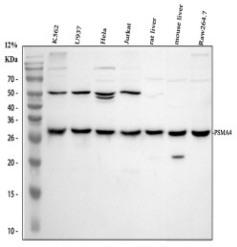
PSMA4 Antibody / Proteasome 20S alpha 4 Antibody (R32558)

Catalog No.	Formulation	Size
R32558	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P25789
Localization	Cytoplasmic, nuclear
Applications	Western blot: 0.5-1ug/ml
Limitations	This PSMA4 Antibody / Proteasome 20S alpha 4 Antibody is available for research use only.



PSMA4 Antibody WB in Human and Rodent Samples. Western blot analysis of human K562 (lane 1), U937 (lane 2), HeLa (lane 3), and Jurkat (lane 4) whole cell lysates, rat liver (lane 5), mouse liver (lane 6), and mouse RAW264.7 whole cell lysate (lane 7) using the Proteasome 20S alpha 4 Antibody at 0.5 ug/ml. Samples containing 30 ug of total protein per lane were separated by 12% SDS-PAGE under reducing conditions. A prominent band is detected at approximately 29 kDa in all seven samples, consistent with the predicted molecular weight of PSMA4.

Description

PSMA4 Antibody / Proteasome 20S alpha 4 Antibody recognizes a structural component of the 20S proteasome core particle, a multiprotein complex responsible for regulated intracellular protein degradation. The PSMA4 gene encodes proteasome subunit alpha type-4, also known as macropain subunit C9 or proteasome component C9. This protein belongs to the proteasome alpha subunit family and contributes to the organization and stability of the proteolytic machinery that maintains cellular protein homeostasis.

The 20S proteasome has a cylindrical structure composed of four stacked heptameric rings. Two outer rings each contain

seven distinct alpha subunits, while two inner rings contain seven beta subunits responsible for proteolytic activity. PSMA4 occupies a defined position within the alpha rings, which regulate access to the internal catalytic chamber. These outer rings help restrict uncontrolled protein degradation while allowing substrates to enter under appropriate regulatory conditions. Unlike the catalytic beta subunits, PSMA4 primarily performs a structural and regulatory function within the assembled complex.

Association of the 20S core with 19S regulatory particles produces the 26S proteasome, which recognizes and degrades many proteins marked with ubiquitin. This pathway controls the abundance of regulatory proteins involved in cell cycle progression, transcription, signal transduction, and apoptosis. Proteasome-mediated degradation also removes damaged or misfolded proteins, helping cells maintain proteostasis during normal growth and environmental stress. Alternative regulatory particles can associate with the 20S core, supporting additional mechanisms of substrate processing and protein turnover.

PSMA4 is expressed in a broad range of tissues and contributes to proteasome function in both the cytoplasm and nucleus. Altered proteasome activity is associated with changes in cellular proliferation, stress adaptation, and disease-related protein accumulation. Research involving PSMA4 can therefore provide insight into proteasome organization, core particle assembly, and the regulation of intracellular protein degradation. NSJ Bioreagents offers this PSMA4 Antibody for investigating a conserved component of the proteasome system and its contribution to cellular protein quality control.

Explore related proteins involved in proteasome function, protein turnover, and cellular homeostasis in our Cell Biology Antibodies collection.

Application Notes

Differences in protocols and secondary/substrate sensitivity may require the PSMA4 Antibody / Proteasome 20S alpha 4 Antibody to be titrated for optimal performance.

Immunogen

Amino acids 84-123 (NVLTNELRLIAQRYLLQYQEPIPCEQLVTALCDIKQAYTQ) from the human protein were used as the immunogen for the PSMA4 antibody.

Storage

After reconstitution, the PSMA4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Proteasome subunit alpha type-4 antibody, Proteasome alpha 4 antibody, Macropain subunit C9 antibody, Proteasome component C9 antibody

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