PSMC4 Antibody / 26S proteasome regulatory subunit 6B / TBP-7 [clone 31P63] (FY12866)

Catalog No.	Formulation	Size
FY12866	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31P63
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P43686
Applications	Western Blot : 1:500-1:2000 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This PSMC4 antibody is available for research use only.

Description

PSMC4 antibody recognizes the 26S proteasome regulatory subunit 6B, also known as TBP-7, a protein encoded by the PSMC4 gene. This subunit is a member of the AAA ATPase family and forms part of the 19S regulatory particle of the 26S proteasome. The proteasome is the major protein degradation machinery in eukaryotic cells, responsible for removing damaged, misfolded, or short-lived regulatory proteins through ubiquitin-mediated proteolysis. PSMC4 antibody provides researchers with a key tool to study proteasomal structure and function, particularly in pathways linked to protein turnover, cell cycle regulation, and stress responses.

The 26S proteasome consists of a 20S catalytic core and a 19S regulatory complex. PSMC4 is one of six ATPase subunits within the base of the 19S regulator. These ATPases act as a molecular motor, unfolding ubiquitinated substrates and translocating them into the catalytic chamber for degradation. The role of PSMC4 is critical for energy-dependent substrate processing. Detection with PSMC4 antibody supports studies on proteasome assembly, activity, and

substrate specificity.

Dysfunction of proteasome regulation has been linked to neurodegenerative diseases, cancer, and autoimmune disorders. Mutations or altered expression of proteasome subunits, including PSMC4, can disrupt proteostasis and lead to the accumulation of toxic protein aggregates. PSMC4 antibody has therefore been used to examine proteasome activity in conditions such as Parkinson disease, Huntington disease, and multiple myeloma. In cancer biology, changes in proteasome function influence cell proliferation and apoptosis, making it a therapeutic target.

PSMC4 antibody is suitable for use in western blotting, immunohistochemistry, and immunoprecipitation. Western blotting reveals subunit expression within the proteasome complex, while immunohistochemistry highlights localization in tissues with high proteolytic activity, such as liver and brain. Immunoprecipitation using PSMC4 antibody aids in proteasome purification and analysis of protein-protein interactions.

Researchers studying pathways of ubiquitin-mediated degradation, antigen presentation, and stress responses rely on antibodies such as PSMC4 antibody to track proteasome composition and function. NSJ Bioreagents offers validated reagents for investigating this essential protein degradation system across a wide range of experimental applications.

Application Notes

Optimal dilution of the PSMC4 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Tbp7 was used as the immunogen for the PSMC4 antibody.

Storage

Store the PSMC4 antibody at -20oC.