PSMB10 Antibody / Proteasome subunit beta type 10 [clone 30P25] (FY13232)

Catalog No.	Formulation	Size
FY13232	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	30P25
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	P40306
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200
Limitations	This PSMB10 antibody is available for research use only.

Description

PSMB10 antibody detects Proteasome subunit beta type-10, encoded by the PSMB10 gene. Proteasome subunit beta type-10 is a catalytic component of the immunoproteasome, which processes intracellular proteins for presentation by MHC class I molecules. PSMB10 antibody provides researchers with a highly specific reagent to study antigen processing, immune responses, and proteasome biology.

The proteasome is a multicatalytic protease complex responsible for degrading ubiquitinated proteins. Research using PSMB10 antibody has demonstrated that incorporation of Proteasome subunit beta type-10 into the 20S proteasome replaces the standard catalytic subunit beta type-2, conferring altered cleavage specificity optimized for generating peptides that bind MHC class I molecules. This substitution enhances immune surveillance by producing peptides with anchor residues suited for antigen presentation.

PSMB10 is inducible by interferon gamma, which promotes immunoproteasome assembly in response to infection. Studies with PSMB10 antibody have shown that upregulation of this subunit increases antigenic peptide supply, facilitating recognition of infected or malignant cells by cytotoxic T lymphocytes. This mechanism highlights the link between interferon signaling, proteasome remodeling, and adaptive immunity.

Beyond its role in immunity, altered expression of Proteasome subunit beta type-10 has been implicated in disease. Research using PSMB10 antibody has revealed that dysregulation of immunoproteasome activity contributes to autoimmunity, cancer, and neurodegeneration. Overactive immunoproteasome function can enhance self-antigen presentation, driving autoimmunity, while impaired activity reduces antigen presentation and immune defense. These findings make PSMB10 a critical focus in both basic and translational research.

PSMB10 antibody is applied in western blotting, immunohistochemistry, and flow cytometry. Western blotting confirms immunoproteasome incorporation, immunohistochemistry highlights tissue-specific expression, and flow cytometry quantifies levels in immune cells. These applications make PSMB10 antibody essential in immunology and proteostasis research.

By supplying validated PSMB10 antibody reagents, NSJ Bioreagents supports studies into antigen processing, proteasome biology, and immune regulation. Detection of Proteasome subunit beta type-10 provides insight into how the immune system adapts protein degradation machinery to improve surveillance.

Application Notes

Optimal dilution of the PSMB10 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human PSMB10 was used as the immunogen for the PSMB10 antibody.

Storage

Store the PSMB10 antibody at -20oC.