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Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8)

Catalog # ABO16624

Specification

Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8) - Product Information

Application	**WB, FC**
Primary Accession	Q99436
Host	**Mouse**
Isotype	**IgG2b**
Reactivity	**Rat, Human, Mouse, Monkey**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.

Reconstitution
Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.

Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8) - Additional Information

Gene ID 5695

Other Names
Proteasome subunit beta type-7, 3.4.25.1, Macropain chain Z, Multicatalytic endopeptidase complex chain Z, Proteasome subunit Z, PSMB7, Z

Calculated MW
25 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human, Monkey, Mouse, Rat
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.

Immunogen
E.coli-derived human Proteasome 20S beta 7/PSMB7 recombinant protein (Position: D17-S277).

Purification
Immunogen affinity purified.

Storage	**At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated**

freezing and thawing.

Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8) - Protein Information

Name PSMB7 (HGNC:9544)

Synonyms Z

Function
Component of the 20S core proteasome complex involved in the proteolytic degradation of most intracellular proteins. This complex plays numerous essential roles within the cell by associating with different regulatory particles. Associated with two 19S regulatory particles, forms the 26S proteasome and thus participates in the ATP- dependent degradation of ubiquitinated proteins. The 26S proteasome plays a key role in the maintenance of protein homeostasis by removing misfolded or damaged proteins that could impair cellular functions, and by removing proteins whose functions are no longer required. Associated with the PA200 or PA28, the 20S proteasome mediates ubiquitin- independent protein degradation. This type of proteolysis is required in several pathways including spermatogenesis (20S-PA200 complex) or generation of a subset of MHC class I-presented antigenic peptides (20S-PA28 complex). Within the 20S core complex, PSMB7 displays a trypsin-like activity.

Cellular Location
Cytoplasm. Nucleus. Note=Translocated from the cytoplasm into the nucleus following interaction with AKIRIN2, which bridges the proteasome with the nuclear import receptor IPO9

Tissue Location
Expressed at a low level in colonic mucosa. Up- regulated in colorectal cancer tissues.

Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Proteasome 20S beta 7/PSMB7 Antibody Picoband™ (monoclonal, 3H6C8) - Images

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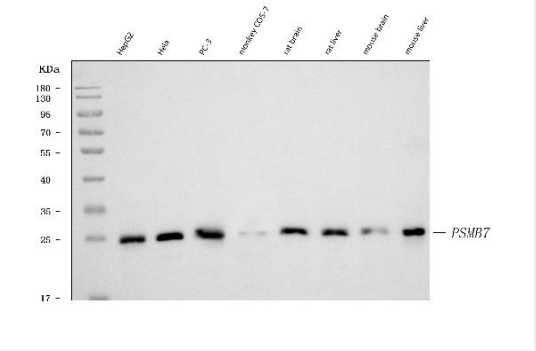

Figure 1. Western blot analysis of Proteasome 20S beta 7/PSMB7 using anti-Proteasome 20S beta 7/PSMB7 antibody (M08095-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HepG2 whole cell lysates,
Lane 2: human Hela whole cell lysates,
Lane 3: human PC-3 whole cell lysates,
Lane 4: monkey COS-7 whole cell lysates,
Lane 5: rat brain tissue lysates,
Lane 6: rat liver tissue lysates,
Lane 7: mouse brain tissue lysates,
Lane 8: 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 mouse anti-Proteasome 20S beta 7/PSMB7 antigen affinity purified monoclonal antibody (Catalog # M08095-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Proteasome 20S beta 7/PSMB7 at approximately 25 kDa. The expected band size for Proteasome 20S beta 7/PSMB7 is at 30 kDa.

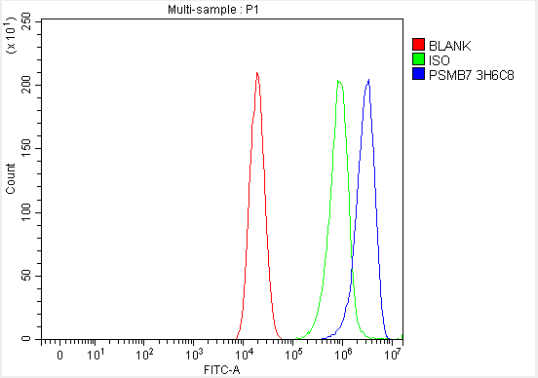

Figure 2. Flow Cytometry analysis of CACO-2 cells using anti-PSMB7 antibody (M08095-2).
Overlay histogram showing CACO-2 cells stained with M08095-2 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-PSMB7 Antibody (M08095-2, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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Background

Proteasome subunit beta type-7 as known as 20S proteasome subunit beta-2 is a protein that in humans is encoded by the PSMB7 gene. The proteasome is a multicatalytic proteinase complex with a highly ordered ring-shaped 20S core structure. The core structure is composed of 4 rings of 28 non-identical subunits; 2 rings are composed of 7 alpha subunits and 2 rings are composed of 7 beta subunits. Proteasomes are distributed throughout eukaryotic cells at a high concentration and cleave peptides in an ATP/ubiquitin-dependent process in a non-lysosomal pathway. The encoded protein is a member of the proteasome B-type family, also known as the T1B family, and is a 20S core beta subunit in the proteasome. Expression of this catalytic subunit is downregulated by gamma interferon, and proteolytic processing is required to generate a mature subunit. A pseudogene of this gene is located on the long arm of chromosome 14.