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PSMB8 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1605a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	P28062
Reactivity	Human, Rat
Host	Mouse
Clonality	Monoclonal
Clone Names	1A5
Isotype	IgG1
Calculated MW	30354
Description	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. An essential function of a modified proteasome, the immunoproteasome, is the processing of class I MHC peptides. This gene encodes a member of the proteasome B-type family, also known as the T1B family, that is a 20S core beta subunit. This gene is located in the class II region of the MHC (major histocompatibility complex). Expression of this gene is induced by gamma interferon and this gene product replaces catalytic subunit 3 (proteasome beta 5 subunit) in the immunoproteasome. Proteolytic processing is required to generate a mature subunit. Two alternative transcripts encoding two isoforms have been identified; both isoforms are processed to yield the same mature subunit.
Immunogen	Purified recombinant fragment of human PSMB8 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	5696
Other Names	Proteasome subunit beta type-8, 3.4.25.1, Low molecular mass protein 7, Macropain subunit C13, Multicatalytic endopeptidase complex subunit C13, Proteasome component C13, Proteasome subunit beta-5i, Really interesting new gene 10 protein, PSMB8, LMP7, PSMB5i, RING10, Y2
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store

at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions PSMB8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name PSMB8

Synonyms LMP7, PSMB5i, RING10, Y2

Function The proteasome is a multicatalytic proteinase complex which is characterized by its ability to cleave peptides with Arg, Phe, Tyr, Leu, and Glu adjacent to the leaving group at neutral or slightly basic pH. The proteasome has an ATP-dependent proteolytic activity. This subunit is involved in antigen processing to generate class I binding peptides. Replacement of PSMB5 by PSMB8 increases the capacity of the immunoproteasome to cleave model peptides after hydrophobic and basic residues. Involved in the generation of spliced peptides resulting from the ligation of two separate proteasomal cleavage products that are not contiguous in the parental protein (PubMed:27049119). Acts as a major component of interferon gamma-induced sensitivity. Plays a key role in apoptosis via the degradation of the apoptotic inhibitor MCL1. May be involved in the inflammatory response pathway. In cancer cells, substitution of isoform 1 (E2) by isoform 2 (E1) results in immunoproteasome deficiency. Required for the differentiation of preadipocytes into adipocytes.

Cellular Location Cytoplasm {ECO:0000255|PROSITE-ProRule:PRU00809}. Nucleus

References

1. Genes Chromosomes Cancer. 2009 May;48(5):410-8. 2. Respir Med. 2010 Jun;104(6):889-94. Epub 2010 Feb 11.

Images

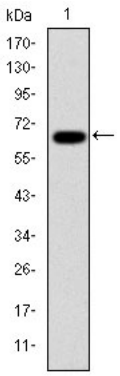
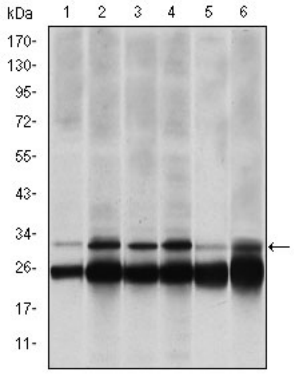


Figure 1: Western blot analysis using PSMB8 mAb against human PSMB8 (AA: 1-272) recombinant protein. (Expected MW is 55.2 kDa)

Figure 2: Western blot analysis using PSMB8 mouse mAb against Hela (1), MCF-7 (2), A431 (3), RAJI (4), MOTL4 (5) and PC-12 (6) cell lysate.



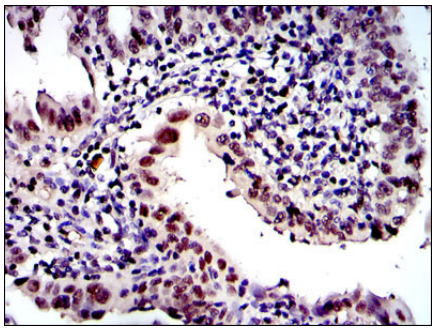


Figure 3: Immunohistochemical analysis of paraffin-embedded intima cancer tissues using PSMB8 mouse mAb with DAB staining.

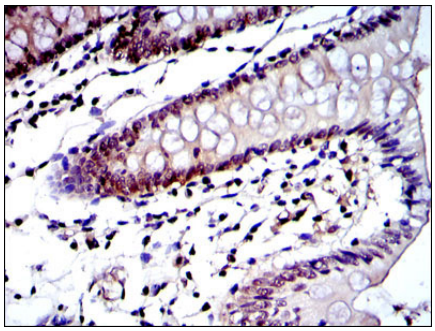


Figure 4: Immunohistochemical analysis of paraffin-embedded colon tissues using PSMB8 mouse mAb with DAB staining.

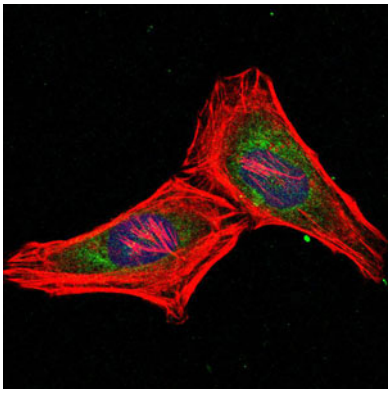


Figure 5: Immunofluorescence analysis of Hela cells using PSMB8 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.