PSMC2 monoclonal antibody

Catalog: MB66975 Host: Mouse Reactivity: Human

BackGround:

The 26S proteasome is a highly abundant proteolytic complex involved in the degradation of ubiquitinated substrate proteins. It consists largely of two sub-complexes, the 20S catalytic core particle (CP) and the 19S/PA700 regulatory particle (RP) that can cap either end of the CP. The CP consists of two stacked heteroheptameric β-rings (β1-7) that contain three catalytic β-subunits and are flanked on either side by two heteroheptameric α-rings (α1-7). The RP includes a base and a lid, each having multiple subunits. The base, in part, is composed of a heterohexameric ring of ATPase subunits belonging to the AAA (ATPases Associated with diverse cellular Activities) family. The ATPase subunits function to unfold the substrate and open the gate formed by the α-subunits, thus exposing the unfolded substrate to the catalytic β-subunits. The lid consists of ubiquitin receptors and DUBs that function in recruitment of ubiquitinated substrates and modification of ubiquitin chain topology . Other modulators of proteasome activity, such as PA28/11S REG, can also bind to the end of the 20S CP and activate it .

The base of the eukaryotic proteasome 19S/PA700 RP contains six AAA-ATPase subunits (PSMC1-PSMC6) that bind directly to the 20S CP α-ring. These 19S RP ATPases are thought to assemble into a heterohexameric, pore-like structure that forms part of the substrate translocation channel. Energy derived from ATP hydrolysis by the AAA-ATPases is utilized for substrate unfolding and translocation, which is required for degradation of ubiquitinated folded proteins within the central chamber of the 20S CP formed by β-subunits . PSMC2 (RPT1, MSS1) is a AAA-ATPase subunit of the 19S/PA700 RP. Research studies have shown that PSMC2 is associated with several components of the basal transcriptional machinery suggesting that PSMC2, in addition to participating in proteasome-dependent degradation of proteins, may also play a role in gene transcription. More recently, it has been shown that numerous human cancer cell lines have reduced PSMC2 expression resulting from loss of PSMC2 copy number loss and display a strict threshold requirement for PSMC2 levels in order to sustain a proliferative advantage .

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 47 kDa

Swiss-Prot:

P35998

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000)

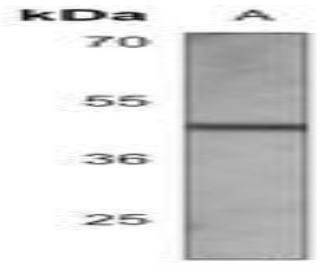
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

Specificity:

Recognizes endogenous levels of PSMC2 protein.

DATA:



Western blot analysis of PSMC2 expression in C6 (A) whole cell lysates.

Note:

For research use only, not for use in diagnostic procedure.

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