#2455 Store at –20°C

PSMA2 Antibody

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

rev. 05/09/17

For Research Use Only. Not For Use In Diagnostic Procedures.

Swiss-Prot Acc. #P25787

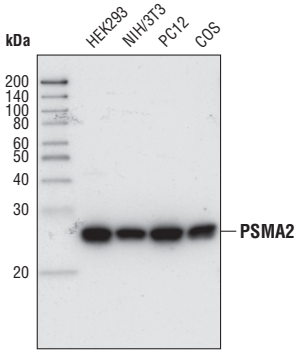
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-IC	H, M, R, Mk	28 kDa	Rabbit**
Endogenous			

Background: The 20S proteasome is the major proteolytic enzyme complex involved in intracellular protein degradation. It consists of four stacked rings, each with 7 distinct subunits. The two outer layers are identical rings composed of α subunits (called PSMAs), and the two inner layers are identical rings composed of β subunits. While the catalytic sites are located on the β rings (1–3), the α subunits are important for assembly and as binding sites for regulatory proteins (4). Seven different α and ten different β proteasome genes have been identified in mammals (5).

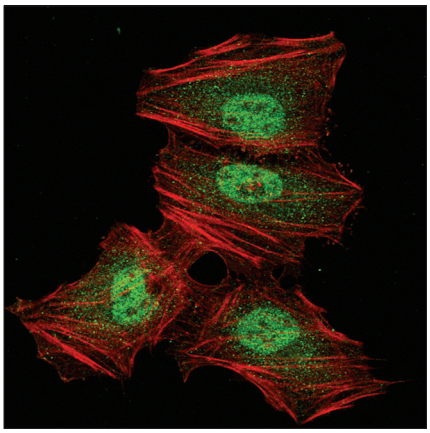
PA700, PA28 and PA200 are three major protein complexes that function as activators of the 20S proteasome. PA700 binds polyubiquitin with high affinity and associates with the 20S proteasome to form the 26S proteasome which preferentially degrades poly-ubiquitinylated proteins (1–3). The proteasome has a broad substrate spectrum which includes cell cycle regulators, signaling molecules, tumor suppressors and transcription factors. By controlling the degradation of these intracellular proteins, the proteasome functions in cell cycle regulation, cancer development, immune response, protein folding and disease progression (6–9).

Specificity/Sensitivity: PSMA2 Antibody detects endogenous levels of total PSMA2 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr223 of human PSMA2 protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from various cell lines using PMSA2 Antibody.



Confocal immunofluorescent analysis of HeLa cells using PSMA2 Antibody (green). Actin filaments have been labeled with Alexa Fluor® 555 phalloidin (red).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by Western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunofluorescence (IF-IC)	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Dahlmann, B. (2005) *Essays Biochem.* 41, 31–48.

(2) Pickart, C.M. and Cohen, R.E. (2004) *Nat. Rev. Mol. Cell Biol.* 5, 177–187.

(3) Nandi, D. et al. (2006) *J. Biosci.* 31, 137–155.

(4) Lupas, A. et al. (1993) *Enzyme Protein* 47, 252–273.

(5) Monaco, J.J. and Nandi, D. (1995) *Annu. Rev. Genet.* 29, 729–754.

(6) Murray, A.W. (2004) *Cell* 116, 221–234.

(7) Ciechanover, A. (2006) *Proc. Am. Thorac. Soc.* 3, 21–31.

(8) Wang, J. and Maldonado, M.A. (2006) *Cell. Mol. Immunol.* 3, 255–261.

(9) Rubinsztein, D.C. (2006) *Nature* 443, 780–786.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.