

#11864 Store at -20C

PSMA2 (D3A4) Rabbit mAb**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	25	Rabbit IgG	#P25787	5683

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / SensitivityPSMA2 (D3A4) Rabbit mAb recognizes endogenous levels of total PSMA2 protein. This antibody does not cross-react with other α subunits of the 20S proteasome.**Species predicted to react based on 100% sequence homology:**

Chicken, Xenopus, Zebrafish, Bovine, Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Phe173 of human PSMA2 protein.

Background

The 20S proteasome is the major proteolytic enzyme complex involved in intracellular protein degradation. It consists of four stacked rings, each with seven distinct subunits. The two outer layers are identical rings composed of α subunits (called PSMA2s), 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 polyubiquitinated proteins (1-3). The proteasome has a broad substrate spectrum that 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 responses, protein folding, and disease progression (6-9).

Background References

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2. Pickart, C.M. and Cohen, R.E. (2004) *Nat. Rev. Mol. Cell Biol.* 5, 177-87.
3. Nandi, D. et al. (2006) *J. Biosci.* 31, 137-55.
4. Lupas, A. et al. (1993) *Enzyme Protein* 47, 252-73.
5. Monaco, J.J. and Nandi, D. (1995) *Annu. Rev. Genet.* 29, 729-54.
6. Murray, A.W. (2004) *Cell* 116, 221-34.
7. Ciechanover, A. (2006) *Proc. Am. Thorac. Soc.* 3, 21-31.
8. Wang, J. and Maldonado, M.A. (2006) *Cell. Mol. Immunol.* 3, 255-61.
9. Rubinsztein, D.C. (2006) *Nature* 443, 780-6.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key**WB:** Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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