

PSMA3 (D4Y90) Rabbit mAb

✓ 100 µl
(10 western blots)

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New 04/13

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Applications W, IP Endogenous	Species Cross-Reactivity* H, M, R, Mk, (Dg, Pg, Hr)	Molecular Wt. 28 kDa	Isotype Rabbit IgG**
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Background: The 26S proteasome is a highly abundant ~2 MDa complex that serves as the proteolytic arm of the ubiquitin-proteasome system. It consists largely of two sub-complexes, the 19S regulatory particle (RP) and the 20S catalytic core particle (CP), and in many cases two RPs cap either end of a CP. The CP is made of two stacked β -rings that contain the catalytic sites, each of which is made of seven subunits (β_{1-7}), flanked on either side by two α -rings, which are also made of seven subunits each (α_{1-7}). Thus, the structure of the 20S CP is $\alpha_{1-7}\beta_{1-7}\beta_{1-7}\alpha_{1-7}$. The RP includes a base and a lid. The base, in part, is composed of a hexameric ring of ATPases that function to unfold the substrate and open the gate of the interlacing N-terminal segments of the α -subunits, thus allowing entry of the unfolded substrate into the catalytic chamber. The lid is predominantly involved in specific recognition of the ubiquitin signal (1). In addition to the 19S cap, other proteins and complexes, such as proteasome activator 28 (PA28/11S), bind to the end of the 20S cylinder and activate it by facilitating opening of the gate. Furthermore, proteasome-associated DUBs and E3s can remodel substrate-anchored polyubiquitin chains, which may modulate their susceptibility to degradation (2).

PSMA3 (HC8/ $\alpha 7$) is an α subunit of the 20S proteasome. PSMA3 lacks any known proteolytic activity but may have an important role in the initiation of ring formation and 20S proteasome assembly (3). Research studies have demonstrated that PSMA3 serves as a receptor within the proteasome, recruiting substrates that are destined for degradation in a ubiquitination-independent manner (4,5).

Specificity/Sensitivity: PSMA3 (D4Y90) Rabbit mAb recognizes endogenous levels of total PSMA3 protein. This antibody does not cross-react with other α subunits of the 20S proteasome. This antibody cross-reacts with a 140 kDa protein of unknown identity in lysates from certain cell lines.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg100 of human PSMA3 protein.

Entrez-Gene ID #5684
Swiss-Prot Acc. #P25788

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.

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

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

Recommended Antibody Dilutions:

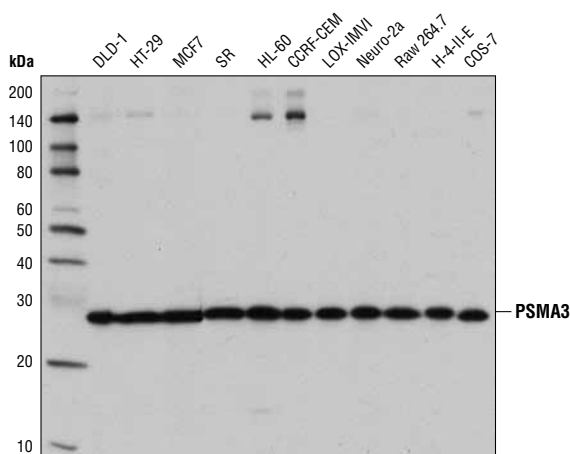
Western blotting	1:1000
Immunoprecipitation	1:50

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

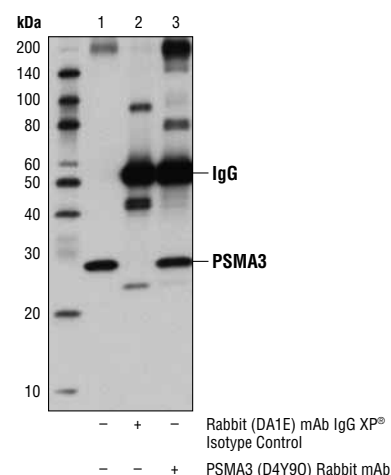
Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

- (1) Finley, D. (2009) *Annu Rev Biochem* 78, 477-513.
- (2) Lee, M.J. et al. (2011) *Mol Cell Proteomics* 10, R110.003871.
- (3) Gerards, W.L. et al. (1998) *J Mol Biol* 275, 113-21.
- (4) Touitou, R. et al. (2001) *EMBO J* 20, 2367-75.
- (5) Sdek, P. et al. (2005) *Mol Cell* 20, 699-708.



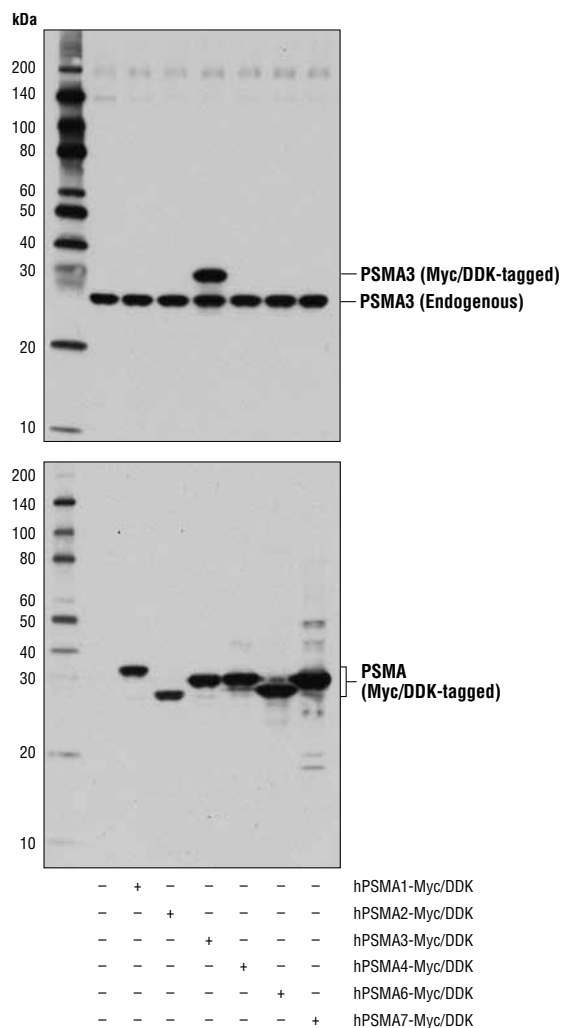
Western blot analysis of extracts from various cell lines using PSMA3 (D4Y90) Rabbit mAb.



Immunoprecipitation of PSMA3 from 293T cell extracts, using Rabbit (DA1E) mAb IgG XP® Isotype Control #3900 (lane 2) or PSMA3 (D4Y90) Rabbit mAb (lane 3). Lane 1 is 10% input. Western blot analysis was performed using PSMA3 (D4Y90) Rabbit mAb.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 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.



Western blot analysis of extracts from 293T cells, mock transfected (-) or transfected with constructs expressing Myc/DDK-tagged full-length human PSMA1 (hPSMA1-Myc/DDK; +), full-length human PSMA2 (hPSMA2-Myc/DDK; +), full-length human PSMA3 (hPSMA3-Myc/DDK; +), full-length human PSMA4 (hPSMA4-Myc/DDK; +), full-length human PSMA6 (hPSMA6-Myc/DDK; +); or full-length human PSMA7 (hPSMA7-Myc/DDK; +), using PSMA3 (D4Y90) Rabbit mAb (upper) or DYKDDDDK Tag Antibody #2368 (lower).