

**POMP (D2X9S) Rabbit mAb**

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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: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| W, IP         | H M R Mk    | Endogenous   | 16        | Rabbit IgG      | #Q9Y244     | 51371           |

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:200

**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/Sensitivity**

POMP (D2X9S) Rabbit mAb recognizes endogenous levels of total POMP protein.

**Species predicted to react based on 100% sequence homology**

Bovine

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human POMP protein.

**Background**

The 26S proteasome is a highly abundant proteolytic complex involved in the degradation of ubiquitinated substrate proteins. It consists largely of the 20S catalytic core particle (CP) and the 19S/PA700 regulatory particle (RP) that caps either end of the CP. The CP consists of two stacked heteroheptameric  $\beta$ -rings ( $\beta$ 1-7) that contain three catalytic  $\beta$ -subunits flanked on either side by two heteroheptameric  $\alpha$ -rings ( $\alpha$ 1-7). The RP includes multimeric base and lid complexes. The RP base includes a heterohexameric ring of ATPase subunits that unfold the substrate and open the  $\alpha$ -subunit gate to expose the substrate to the catalytic  $\beta$ -subunits. The lid consists of ubiquitin receptors and DUBs that recruit ubiquitinated substrates and modify ubiquitin chain topology (1,2). Proteasome activity modulators, such as PA28/11S REG, bind the 20S CP cylinder end and open the CP channel (1,2). Proteasome maturation protein (POMP, proteasembilin, hUMP1) is an integral factor essential for assembly of the 20S catalytic core particle during mammalian proteasome biogenesis. POMP promotes heteroheptameric  $\beta$ -ring formation and dimerization of half-proteasomes during core particle assembly. The POMP protein undergoes proteasomal degradation following 20S CP complex assembly and activation (3-6). Research studies suggest that POMP is required for CP assembly for both constitutive proteasomes and immunoproteasomes, and that the assembly focal point resides at the endoplasmic reticulum (6-8). A single nucleotide deletion in the 5' UTR of POMP results in altered epidermal POMP distribution and the autosomal recessive skin disorder known as KLICK syndrome (9).

**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. Griffin, T.A. et al. (2000) *Mol Cell Biol Res Commun* 3, 212-7.
4. Witt, E. et al. (2000) *J Mol Biol* 301, 1-9.
5. Ramos, P.C. et al. (1998) *Cell* 92, 489-99.
6. Fricke, B. et al. (2007) *EMBO Rep* 8, 1170-5.
7. Heink, S. et al. (2005) *Proc Natl Acad Sci U S A* 102, 9241-6.
8. Heink, S. et al. (2006) *Cancer Res* 66, 649-52.
9. Dahlqvist, J. et al. (2010) *Am J Hum Genet* 86, 596-603.

**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**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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