

PSMD7 (24-KK): sc-100458

BACKGROUND

In eukaryotic cells, selective breakdown of cellular proteins is ensured by their ubiquitination and subsequent degradation by the 26S Proteasome. The 26S Proteasome is a protease complex that selectively breaks down proteins that have been modified by polyubiquitin chains. It is made up of two multi-subunit complexes: the 20S Proteasome chamber, which serves as the proteolytic core of the complex and two 19S regulatory particles which recognize and unfold ubiquitinated proteins. PSMD7 [proteasome (prosome, macropain) 26S subunit, non-ATPase 7], also referred to as P40, S12 or MOV34, is a regulatory subunit of the 26S Proteasome which is involved in the ATP-dependent degradation of ubiquitinated proteins. PSMD7 contains a proteolytically resistant MPN domain. MPN domain family members comprise subunits of the proteasome, COP9-signalosome and eIF3 (translation initiation factor 3) complexes. PSMD7 interacts with HIV-1 Vpr and together they function as a cellular factor linked to the G₂/M phase transition of the mammalian cell cycle.

REFERENCES

- Gridley, T., et al. 1990. Molecular analysis of the Mov 34 mutation: transcript disrupted by proviral integration in mice is conserved in *Drosophila*. *Development* 109: 235-242.
- Gridley, T., et al. 1991. The murine Mov-34 gene: full-length cDNA and genomic organization. *Genomics* 11: 501-507.
- Deveraux, Q., et al. 1994. A 26S protease subunit that binds ubiquitin conjugates. *J. Biol. Chem.* 269: 7059-7061.
- Deveraux, Q., et al. 1995. Molecular cloning and expression of a 26S protease subunit enriched in dileucine repeats. *J. Biol. Chem.* 270: 23726-23729.
- Dubiel, W., et al. 1995. Molecular cloning and expression of subunit 12: a non-MCP and non-ATPase subunit of the 26S protease. *FEBS Lett.* 363: 97-100.
- Mahalingam, S., et al. 1998. HIV-1 Vpr interacts with a human 34-kDa mov34 homologue, a cellular factor linked to the G₂/M phase transition of the mammalian cell cycle. *Proc. Natl. Acad. Sci. USA* 95: 3419-3424.
- Ta, M. and Vрати, S. 2000. Mov34 protein from mouse brain interacts with the 3' noncoding region of Japanese encephalitis virus. *J. Virol.* 74: 5108-5115.
- Hirano, Y., et al. 2005. Large- and small-scale purification of mammalian 26S Proteasomes. *Meth. Enzymol.* 399: 227-240.
- Sanches, M., et al. 2007. The crystal structure of the human Mov34 MPN domain reveals a metal-free dimer. *J. Mol. Biol.* 370: 846-855.

CHROMOSOMAL LOCATION

Genetic locus: PSMD7 (human) mapping to 16q23.1; Psmid7 (mouse) mapping to 8 D3.

SOURCE

PSMD7 (24-KK) is a mouse monoclonal antibody raised against recombinant PSMD7 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PSMD7 (24-KK) is recommended for detection of PSMD7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PSMD7 siRNA (h): sc-93196, PSMD7 siRNA (m): sc-152562, PSMD7 shRNA Plasmid (h): sc-93196-SH, PSMD7 shRNA Plasmid (m): sc-152562-SH, PSMD7 shRNA (h) Lentiviral Particles: sc-93196-V and PSMD7 shRNA (m) Lentiviral Particles: sc-152562-V.

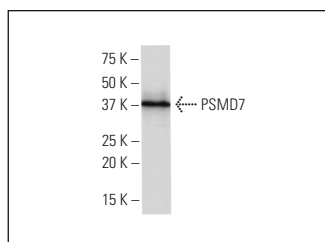
Molecular Weight of PSMD7: 34 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



PSMD7 (24-KK): sc-100458. Western blot analysis of PSMD7 expression in Jurkat whole cell lysate.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.