



PSMD2 (m2): 293T Lysate: sc-122820

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 multisubunit 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. PSMD2 (proteasome (prosome, macropain) 26S subunit, non-ATPase 2), also known as S2, TRAP2 (tumor necrosis factor type 1 receptor-associated protein 2) or p97, is a regulatory component of the 26S Proteasome. It is expressed in skeletal muscle, brain, liver, placenta, kidney, pancreas, lung and heart. PSMD2 is one of the non-ATPase regulatory subunits of the 19S regulator lid and is implicated in substrate recognition and binding.

REFERENCES

1. Tsurumi, C., et al. 1996. cDNA cloning and functional analysis of the p97 subunit of the 26S Proteasome, a polypeptide identical to the type 1 tumor-necrosis-factor-receptor-associated protein 2/55.11. *Eur. J. Biochem.* 239: 912-921.
2. Hampton, R.Y., et al. 1996. Role of 26S Proteasome and HRD genes in the degradation of 3-hydroxy-3-methylglutaryl-CoA reductase, an integral endoplasmic reticulum membrane protein. *Mol. Biol. Cell* 7: 2029-2044.
3. Wilkinson, C.R., et al. 1997. Mts4, a non-ATPase subunit of the 26S Protease in fission yeast is essential for mitosis and interacts directly with the ATPase subunit Mts2. *J. Biol. Chem.* 272: 25768-25777.
4. Dunbar, J.D., et al. 1997. Two-hybrid cloning of a gene encoding TNF receptor-associated protein 2, a protein that interacts with the intracellular domain of the type 1 TNF receptor: identity with subunit 2 of the 26S protease. *J. Immunol.* 158: 4252-4259.
5. Tan, Y., et al. 2006. Effects of tumor necrosis factor α on the 26S Proteasome and 19S regulator in skeletal muscle of severely scalded mice. *J. Burn Care Res.* 27: 226-233.
6. Oberdorf, J., et al. 2006. Uncoupling proteasome peptidase and ATPase activities results in cytosolic release of an ER polytopic protein. *J. Cell Sci.* 119: 303-313.
7. Stanhill, A., et al. 2006. An arsenite-inducible 19S regulatory particle-associated protein adapts proteasomes to proteotoxicity. *Mol. Cell* 23: 875-885.
8. Deng, S., et al. 2007. Overexpression of genes and proteins of ubiquitin specific peptidases (USPs) and proteasome subunits (PSs) in breast cancer tissue observed by the methods of RFDD-PCR and proteomics. *Breast Cancer Res. Treat.* 104: 21-30.

CHROMOSOMAL LOCATION

Genetic locus: Psmd2 (mouse) mapping to 16 B1.

PRODUCT

PSMD2 (m2): 293T Lysate represents a lysate of mouse PSMD2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

PSMD2 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PSMD2 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.