SANTA CRUZ BIOTECHNOLOGY, INC.

Proteassemblin (T-17): sc-67801

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Proteassemblin, also known as POMP (proteasome maturation protein), UMP1 or Voltage-gated potassium channel β subunit 4.1, is an endoplasmic reticulum (ER) associated protein that functions as a molecular chaperone required for proteasome and immunoproteasome assembly. Essential for cell viability and induced by IFN-γ, Proteassemblin associates with preproteasomes and specifically binds to Proteasome 20S β1i, β1, β5, β6 and β7 subunits. Proteassemblin is responsible for mediating the binding of the 20S preproteasome to the ER membrane and is required for incorporation of the β subunits into the 20S Proteasome. Proteassemblin is the human homolog of the yeast Ump1 protein. Unlike Ump1, which becomes incorporated into the proteasome, Proteassemblin is degraded upon maturation of the newly formed proteasome.

REFERENCES

1. Griffin, T.A., et al. 2000. Identification of proteassemblin, a mammalian homologue of the yeast protein, Ump1p, that is required for normal proteasome assembly. Mol. Cell Biol. Res. Commun. 3: 212-217.
2. Meiners, S., et al. 2003. Inhibition of proteasome activity induces concerted expression of proteasome genes and *de novo* formation of mammalian proteasomes. J. Biol. Chem. 278: 21517-21525.
3. Jayarapu, K. and Griffin, T.A. 2004. Protein-protein interactions among human 20S Proteasome subunits and proteassemblin. Biochem. Biophys. Res. Commun. 314: 523-528.
4. Chen, Q., et al. 2005. RNA interference toward UMP1 induces proteasome inhibition in *Saccharomyces cerevisiae*: evidence for protein oxidation and autophagic cell death. Free Radic. Biol. Med. 38: 226-234.
5. Heink, S., et al. 2005. IFN-γ-induced immune adaptation of the proteasome system is an accelerated and transient response. Proc. Natl. Acad. Sci. USA 102: 9241-9246.
6. Hirano, Y., et al. 2005. A heterodimeric complex that promotes the assembly of mammalian 20S Proteasomes. Nature 437: 1381-1385.
7. McIntyre, J., et al. 2006. Analysis of the spontaneous mutator phenotype associated with 20S Proteasome deficiency in *S. cerevisiae*. Mutat. Res. 593: 153-163.
8. Hoefer, M.M., et al. 2006. Possible tetramerisation of the proteasome maturation factor POMP/proteassemblin/hUmp1 and its subcellular localisation. Int. J. Biol. Macromol. 38: 259-267.

CHROMOSOMAL LOCATION

Genetic locus: POMP (human) mapping to 13q12.3; Pomp (mouse) mapping to 5 G3.

SOURCE

Proteassemblin (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Proteassemblin of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67801 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Proteassemblin (T-17) is recommended for detection of Proteassemblin 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

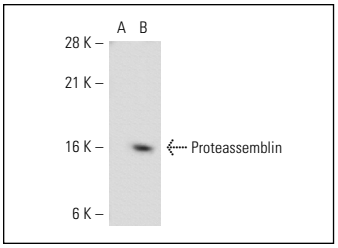
Proteassemblin (T-17) is also recommended for detection of Proteassemblin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Proteassemblin siRNA (h): sc-62890, Proteassemblin siRNA (m): sc-62891, Proteassemblin shRNA Plasmid (h): sc-62890-SH, Proteassemblin shRNA Plasmid (m): sc-62891-SH, Proteassemblin shRNA (h) Lentiviral Particles: sc-62890-V and Proteassemblin shRNA (m) Lentiviral Particles: sc-62891-V.

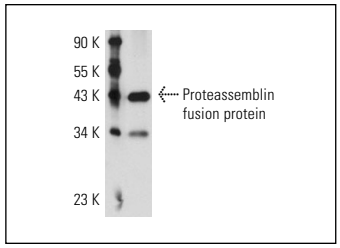
Molecular Weight of Proteassemblin: 16 kDa.

Positive Controls: Proteassemblin (h): 293 Lysate: sc-110788, HL-60 whole cell lysate: sc-2209 or SW480 cell lysate: sc-2219.

DATA



Proteassemblin (T-17): sc-67801. Western blot analysis of Proteassemblin expression in non-transfected: sc-110760 (**A**) and human Proteassemblin transfected: sc-110788 (**B**) 293 whole cell lysates.



Proteassemblin (T-17): sc-67801. Western blot analysis of human recombinant Proteassemblin fusion protein.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **Proteassemblin (B-1): sc-393267** or **Proteassemblin (H-3): sc-271414**, our highly recommended monoclonal alternatives to Proteassemblin (T-17).