SANTA CRUZ BIOTECHNOLOGY, INC.

26S Proteasome p42E (IH12): sc-65757

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The 26S Proteasome is a large complex involved in the intracellular degradation of proteins in eukaryotes. Ubiquitination by E3 ubiquitin ligases targets proteins for degradation by this complex. The 26S Proteasome plays an important role in the regulation of many biological processes. It is composed of over 30 different subunits and contains at least two copies of each subunit. Assembly of this large complex is ATP-dependent. Due to its size, it is fairly unstable and often disassociates into subcomplexes (including a 20S core and two 19S regulatory complexes). The 26S Proteasome p42E is one of the base subunits of the 19S regulatory complex. The 19S regulatory complex recognizes ubiquitinated proteins, removes the ubiquitin chains and translocates the proteins to the 20S core for degradation.

REFERENCES

1. Kurucz, E., Andó, I., Sümegi, M., Hölzl, H., Kapelari, B., Baumeister, W. and Udvardy, A. 2002. Assembly of the *Drosophila* 26S Proteasome is accompanied by extensive subunit rearrangements. Biochem. J. 365: 527-536.
2. Szlanka, T., Haracska, L., Kiss, I., Deák, P., Kurucz, E., Andó, I., Virágh, E. and Udvardy, A. 2003. Deletion of proteasomal subunit S5a/Rpn10/p54 causes lethality, multiple mitotic defects and overexpression of proteasomal genes in *Drosophila melanogaster*. J. Cell Sci. 116: 1023-1033.
3. Ueda, M., Matsui, K., Ishiguro, S., Sano, R., Wada,T., Paponov, I., Palme, K. and Okada, K. 2004. The HALTED ROOT gene encoding the 26S Proteasome subunit RPT2a is essential for the maintenance of *Arabidopsis* meristems. Development 131: 2101-2111.
4. Babbitt, S.E., Kiss, A., Deffenbaugh, A.E., Chang, Y.H., Bailly, E., Erdjument-Bromage, H., Tempst, P., Buranda, T., Sklar, L.A., Baumler, J., Gogol, E. and Skowyra, D. 2005. ATP hydrolysis-dependent disassembly of the 26S Proteasome is part of the catalytic cycle. Cell 121: 553-565.
5. Lee, D., Ezhkova, E., Li, B., Pattenden, S.G., Tansey, W.P. and Workman, J.L. 2005. The proteasome regulatory particle alters the SAGA coactivator to enhance its interactions with transcriptional activators. Cell 123: 423-436.
6. Seong, K.M., Baek, J.H., Yu, M.H. and Kim, J. 2007. Rpn13p and Rpn14p are involved in the recognition of ubiquitinated Gcn4p by the 26S Proteasome. FEBS Lett. 581: 2567-2573.
7. Nickell, S., Beck, F., Korinek, A., Mihalache, O., Baumeister, W. and Plitzko, J.M. 2007. Automated cryoelectron microscopy of "single particles" applied to the 26S Proteasome. FEBS Lett. 581: 2751-2756.
8. Vernace, V.A., Arnaud, L., Schmidt-Glenewinkel, T. and Figueiredo-Pereira, M.E. 2007. Aging perturbs 26S Proteasome assembly in *Drosophila melanogaster*. FASEB J. 21: 2672-2682.
9. Wang, X., Chen, C.F., Baker, P.R., Chen, P.L., Kaiser, P. and Huang, L. 2007. Mass spectrometric characterization of the affinity-purified human 26S Proteasome complex. Biochemistry 46: 3553-3565.

SOURCE

26S Proteasome p42E (IH12) is a mouse monoclonal antibody raised against 26S Proteasome purified from embryos of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

26S Proteasome p42E (IH12) is available conjugated to agarose (sc-65757 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-65757 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65757 PE), fluorescein (sc-65757 FITC), Alexa Fluor® 488 (sc-65757 AF488), Alexa Fluor® 546 (sc-65757 AF546), Alexa Fluor® 594 (sc-65757 AF594) or Alexa Fluor® 647 (sc-65757 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65757 AF680) or Alexa Fluor® 790 (sc-65757 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

26S Proteasome p42E (IH12) is recommended for detection of p42E subunit of the 19S regulatory base complex of the 26S Proteasome of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

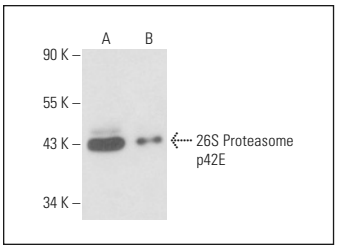
Molecular Weight of 26S Proteasome p42E: 42 kDa.

Positive Controls: *Drosophila* embryo tissue extract.

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



26S Proteasome p42E (IH12): sc-65757. Western blot analysis of 26S Proteasome p42E expression in *Drosophila* embryo (**A**) tissue extract and purified *Drosophila* 26S Proteasome p42E (**B**).

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.