SANTA CRUZ BIOTECHNOLOGY, INC.

26S Proteasome p42A (123): sc-65750

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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 2 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 p42A (also known as Rpn7 in yeast and S10 in human) is one of at least nine non-ATPase lid subunits of the 19S regulatory complex. It is important in the proper assembly and stability of the 26S Proteasome. The 19S regulatory complex recognizes ubiquitinated proteins, removes the ubiquitin chains and translocates the proteins to the 20S core for degradation.

SOURCE

26S Proteasome p42A (123) 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 p42A (123) is available conjugated to agarose (sc-65750 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-65750 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65750 PE), fluorescein (sc-65750 FITC), Alexa Fluor® 488 (sc-65750 AF488), Alexa Fluor® 546 (sc-65750 AF546), Alexa Fluor® 594 (sc-65750 AF594) or Alexa Fluor® 647 (sc-65750 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65750 AF680) or Alexa Fluor® 790 (sc-65750 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

26S Proteasome p42A (123) is recommended for detection of p42A subunit of the 19S regulatory lid 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 p42A: 49 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).

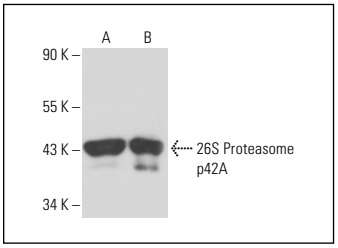
RESEARCH USE

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

STORAGE

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

DATA



26S Proteasome p42A (123): sc-65750. Western blot analysis of 26S Proteasome p42A expression in *Drosophila* embryo (**A**) tissue extract and purified *Drosophila* 26S Proteasome (**B**).

SELECT PRODUCT CITATIONS

1. Tsakiri, E.N., et al. 2013. Differential regulation of proteasome functionality in reproductive vs. somatic tissues of *Drosophila* during aging or oxidative stress. FASEB J. 27: 2407-2420.
2. Chen, L., et al. 2014. Global regulation of mRNA translation and stability in the early *Drosophila* embryo by the Smaug RNA-binding protein. Genome Biol. 15: R4.
3. Tsakiri, E., et al. 2017. The indirubin derivative 6-bromoindirubin-3'-oxime (6BIO) activates proteostatic modules, reprograms cellular bioenergetics pathways and exerts anti-aging effects. Antioxid. Redox Signal. 27: 1027-1047.
4. Tsakiri, E.N., et al. 2019. Proteasome dysfunction induces excessive proteome instability and loss of mitostasis that can be mitigated by enhancing mitochondrial fusion or autophagy. Autophagy 15: 1757-1773.
5. Gumeni, S., et al. 2021. Nrf2 activation induces mitophagy and reverses Parkin/Pink1 knock down-mediated neuronal and muscle degeneration phenotypes. Cell Death Dis. 12: 671.
6. Dina, E., et al. 2021. An enriched polyphenolic extract obtained from the by-product of *Rosa damascena* hydrodistillation activates antioxidant and proteostatic modules. Phytomedicine 93: 153757.
7. Chew, L.Y., et al. 2022. AMPK activates the Nrf2-Keap1 pathway to govern dendrite pruning via the insulin pathway in *Drosophila*. Development 149: dev200536.
8. Gumeni, S., et al. 2023. Sustained Nrf2 overexpression-induced metabolic deregulation can be attenuated by modulating Insulin/Insulin-like growth factor signaling. Cells 12: 2650.

PROTOCOLS

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