SANTA CRUZ BIOTECHNOLOGY, INC.

26S Proteasome (26S-161): sc-73488

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The Power to Question

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 PA700, an ATPase regulatory complex that mediates the binding, modification and delivery of substrates to the proteolytic chamber. At specific stages of development, embryo- and tissue-specific components of the 26S Proteasome are formed, which are responsible for proteolysis. These components of the 26S Proteasome include Rpn10a (pUb-R2) through Rpn10e (pUb-R5), and can be generated by a single Rpn10 gene by developmentally regulated alternative splicing. The 26S Proteasome system degrades the ERM transcription factor, a member of the E transcription factor family, and regulates its transcription-enhancing activity.

REFERENCES

1. Corn, P.G., et al. 2003. Tat-binding protein-1, a component of the 26S Proteasome, contributes to the E3 ubiquitin ligase function of the von Hippel-Lindau protein. Nat. Genet. 35: 229-237.
2. Hu, Z.A., et al. 2003. Relationship between hippocampal long term potentiation induction and activity of 26S Proteasome. Sheng Li Xue Bao 55: 648-652.
3. Shamoto-Nagai, M., et al. 2004. Neuromelanin inhibits enzymatic activity of 26S Proteasome in human dopaminergic SH-SY5Y cells. J. Neural Transm. 111: 1253-1265.
4. Stone, M., et al. 2004. Uch2/Uch37 is the major deubiquitinating enzyme associated with the 26S Proteasome in fission yeast. J. Mol. Biol. 344: 697-706.
5. DeMartino, G.N. 2005. Purification of PA700, the 19S regulatory complex of the 26S Proteasome. Meth. Enzymol. 398: 295-306.
6. Ghee, M., et al. 2005. PA700, the regulatory complex of the 26S Proteasome, interferes with α-synuclein assembly. FEBS J. 272: 4023-4033.
7. Mikalsen, T., et al. 2005. Sequence- and position-dependent tagging protects extracellular-regulated kinase 3 protein from 26S Proteasome-mediated degradation. Int. J. Biochem. Cell Biol. 37: 2513-2520.
8. Shen, Y., et al. 2005. *Arabidopsis* FHY1 protein stability is regulated by light via phytochrome A and 26S Proteasome. Plant Physiol. 139: 1234-1243.

SOURCE

26S Proteasome (26S-161) is a mouse monoclonal antibody raised against 26S Proteasome of *Xenopus laevis* oocytes origin.

PRODUCT

Each vial contains 1.0 ml culture supernatant containing IgG_1 with < 0.1% sodium azide.

APPLICATIONS

26S Proteasome (26S-161) is recommended for detection of the 20S subcomplex within the 26S hetero-oligomeric protein complex and the free cytosolic form of 20S cylinder particles of human and *Xenopus laevis* origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200).

SELECT PRODUCT CITATIONS

1. Soleilhavoup, C., et al. 2014. Ram seminal plasma proteome and its impact on liquid preservation of spermatozoa. J. Proteomics 109: 245-260.
2. Rickard, J.P., et al. 2015. The identification of proteomic markers of sperm freezing resilience in ram seminal plasma. J. Proteomics 126: 303-311.
3. Liu, J., et al. 2020. Xiaoyukang jiaonang promotes the degradation of hypoxia-inducible factor 1α and antiangiogenesis and anti-inflammation in chronic subdural hematoma rat model. Evid. Based Complement. Alternat. Med. 2020: 2305017.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.