SANTA CRUZ BIOTECHNOLOGY, INC.

PSMB4 (LX-1): sc-100454

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. The 20S Proteasome chamber contains α subunits (which are structural) and β subunits (which are predominantly catalytic). The outer two rings in the proteasome consist of seven α subunits each, and the inner two rings each consist of seven β subunits. PSMB4 (proteasome (prosome, macropain) subunit, β type, 4), also known as HN3, PROS26, macropain β chain, proteasome β chain or proteasome subunit 3, is a β subunit of the 20S Proteasome.

REFERENCES

1. McCusker, D., et al. 1997. Genetic relationships of the genes encoding the human proteasome β subunits and the proteasome PA28 complex. Genomics 45: 362-367.
2. Orlowski, M., et al. 1997. Reactions of [14C]-3,4-dichloroisocoumarin with subunits of pituitary and spleen multicatalytic proteinase complexes (proteasomes). Biochemistry 36: 13946-13953.
3. Nandi, D., et al. 1997. Inter-mediates in the formation of mouse 20S proteasomes: implications for the assembly of precursor β subunits. EMBO J. 16: 5363-5375.
4. Takezaki, N., et al. 2002. Sequencing of amphioxus PSMB5/8 gene and phylogenetic position of agnathan sequences. Gene 282: 179-187.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602177. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Razeghi, P., et al. 2006. Atrophy, hypertrophy, and hypoxemia induce transcriptional regulators of the ubiquitin proteasome system in the rat heart. Biochem. Biophys. Res. Commun. 342: 361-364.
7. Cui, F., et al. 2006. The upregulation of proteasome subunits and lysosomal proteases in hepatocellular carcinomas of the HBx gene knockin transgenic mice. Proteomics 6: 498-504.
8. Kannangai, R., et al. 2007. Fibrolamellar carcinomas show overexpression of genes in the Ras, MAPK, PIK3, and xenobiotic degradation pathways. Hum. Pathol. 38: 639-644.

CHROMOSOMAL LOCATION

Genetic locus: PSMB4 (human) mapping to 1q21.3.

SOURCE

PSMB4 (LX-1) is a mouse monoclonal antibody raised against recombinant PSMB4 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PSMB4 (LX-1) is recommended for detection of PSMB4 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

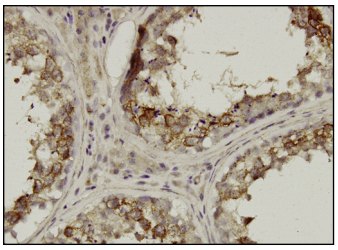
Suitable for use as control antibody for PSMB4 siRNA (h): sc-76269, PSMB4 shRNA Plasmid (h): sc-76269-SH and PSMB4 shRNA (h) Lentiviral Particles: sc-76269-V.

Molecular Weight of PSMB4: 29 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PSMB4 (LX-1): sc-100454. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic localization.

STORAGE

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

PROTOCOLS

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