SANTA CRUZ BIOTECHNOLOGY, INC.

PA28α (L-18): sc-21267

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PA28 is an interferong (IFNg) inducible proteasome activator required for presentation of certain major histocom-patibility (MHC) class I antigens. The PA28 complex is composed of two homologous subunits, α and β, which have similar catalytic properties and associate to form a hexameric ring. PA28α and PA28β, form a heteropolymer that binds to both ends of the 20S proteasome. In the mouse genome, two different chromosomal loci exist for PA28β, both of which are transcribed and encode a functional PA28β subunit. PA28β, for Proteasome activator 28β, is also known as PSME2, REG-β and proteasome (prosome, macropain) activator subunit 2. PA28β is a strong proteasome activator, although its affinity for the proteasome is about 10-fold less than recombinant PA28α. The PA28 complex is expressed constitutively in antigen-presenting cells. Downregulation of PA28 results in abnormal proteasome activation and has been implicated in the development of intimal hyperplasia (IH) in animal models. The PMSE2 gene maps to chromosome 14q11.2 and encodes the b-subunit of the proteasome activator PA28.

REFERENCES

1. Kohda, K., et al. 1998. Characterization of the mouse PA28 activator complex gene family: complete organizations of the three member genes and a physical map of the approximately 150-kb region containing the α- and beta-subunit genes. J. Immunol. 160: 4923-4935.
2. Wilk, S., et al. 2000. Properties of the β subunit of the proteasome activator PA28 (11S REG). Arch. Biochem. Biophys. 384: 174-180.
3. Faries, P.L., et al. 2001. Relationship of the 20S proteasome and the proteasome activator PA28 to atherosclerosis and intimal hyperplasia in the human vascular system. Annu. Vasc. Surg. 15: 628-633.
4. Murata, S., et al. 2001. Immunoproteasome assembly and antigen presentation in mice lacking both PA28α and PA28β. EMBO J. 20: 5898-5907.
5. Fabunmi, R.P., et al. 2001. Interferon gamma regulates accumulation of the proteasome activator PA28 and immunoproteasomes at nuclear PML bodies. J. Cell Sci. 114: 29-36.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 600654. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: PSME1 (human) mapping to 14q12; Psme1 (mouse) mapping to 14 C3.

SOURCE

PA28α (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PA28α of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS containing 0.1% sodium azide and 0.2% gelatin.

Blocking peptide available for competition studies, sc-21267 P, (100 µg peptide in 0.5 ml PBS containing 0.1% sodium azide and 100 µg BSA).

APPLICATIONS

PA28α (L-18) is recommended for detection of PA28α 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).

PA28α (L-18) is also recommended for detection of PA28α in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PA28α siRNA (h): sc-106752, PA28α siRNA (m): sc-151977, PA28α shRNA Plasmid (h): sc-106752-SH, PA28α shRNA Plasmid (m): sc-151977-SH, PA28α shRNA (h) Lentiviral Particles: sc-106752-V and PA28α shRNA (m) Lentiviral Particles: sc-151977-V.

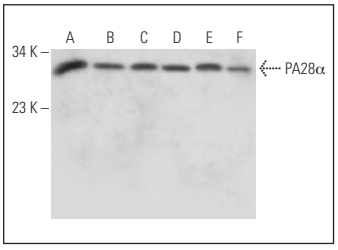
Molecular Weight of PA28α: 28 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, A549 cell lysate: sc-2413 or HL-60 whole cell lysate: sc-2209.

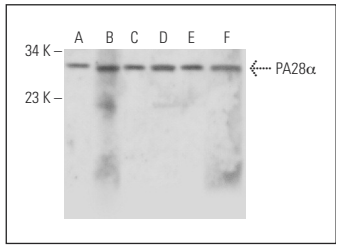
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PA28α (L-18): sc-21267. Western blot analysis of PA28α expression in A549 (**A**), NCI-H1299 (**B**), HEK293 (**C**), A-431 (**D**), HL-60 (**E**) and HeLa (**F**) whole cell lysates.



PA28α (L-18): sc-21267. Western blot analysis of PA28α expression in mouse spleen (**A**) and mouse lung (**B**) tissue extracts and WI-38 (**C**), RT-4 (**D**), U-251-MG (**E**) and MCF7 (**F**) whole cell lysates.

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.