

PA28 α (G-9): sc-518190

BACKGROUND

PA28 is an interferon γ (IFN γ) inducible proteasome activator required for presentation of certain major histocompatibility (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. PA28 α and PA28 β , form a heteropolymer that binds to both ends of the 20S proteasome. In the mouse genome, two different chromosomal loci exist for PA28 β , both of which are transcribed and encode a functional PA28 β subunit. PA28 β , for proteasome activator 28b, is also known as PSME2, REG-b and proteasome (prosome, macropain) activator subunit 2. PA28 β is a strong proteasome activator, although its affinity for the proteasome is about 10-fold less than recombinant PA28 α . 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 intestinal hyperplasia (IH) in animal models. The PSME2 gene maps to chromosome 14q11.2 and encodes the β -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 β -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. Fabunmi, R.P., et al. 2001. Interferon γ regulates accumulation of the proteasome activator PA28 and immunoproteasomes at nuclear PML bodies. *J. Cell Sci.* 114: 29-36.

CHROMOSOMAL LOCATION

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

SOURCE

PA28 α (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 54-79 of PA28 α of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PA28 α (G-9) is available conjugated to agarose (sc-518190 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518190 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518190 PE), fluorescein (sc-518190 FITC), Alexa Fluor[®] 488 (sc-518190 AF488), Alexa Fluor[®] 546 (sc-518190 AF546), Alexa Fluor[®] 594 (sc-518190 AF594) or Alexa Fluor[®] 647 (sc-518190 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518190 AF680) or Alexa Fluor[®] 790 (sc-518190 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

PA28 α (G-9) is recommended for detection of PA28 α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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 PA28 α siRNA (h): sc-106752, PA28 α siRNA (m): sc-151977, PA28 α shRNA Plasmid (h): sc-106752-SH, PA28 α shRNA Plasmid (m): sc-151977-SH, PA28 α shRNA (h) Lentiviral Particles: sc-106752-V and PA28 α shRNA (m) Lentiviral Particles: sc-151977-V.

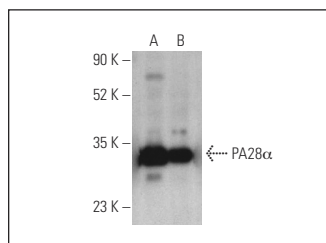
Molecular Weight of PA28 α : 28 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

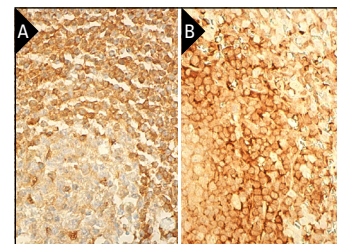
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PA28 α (G-9): sc-518190. Western blot analysis of PA28 α expression in A-431 (A) and K-562 (B) whole cell lysates. Detection reagent used: m-IgG $_1$ BP-HRP: sc-525408.



PA28 α (G-9): sc-518190. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic and membrane staining of cells in germinal center and cells in non-germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic and membrane staining of cells in white pulp and cells in red pulp (B). Blocked with 0.25X UltraCruz[®] Blocking Reagent: sc-516214. Detected with m-IgG Fc BP-B: sc-533652 and ImmunoCruz[®] ABC Kit: sc-516216.

STORAGE

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

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