SANTA CRUZ BIOTECHNOLOGY, INC.

PRAT4A (F-6): sc-515151

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Toll-like receptors (TLRs) are responsible for the innate recognition of microbial products and the induction of immune responses. There are two types of TLRs, cell surface and intracellular, but both rely on their subcellular distribution for optimal microbial recognition. TLR4, a cell surface TLR, is a member of the toll family that detects lipopolysaccharide (LPS), which is an endotoxin that activates immune cells such as macrophages and dendritic cells. LPS recognition by TLR4 is induced by MD-2, an extracellular molecule that binds to the extracellular domain of TLR4, and PRAT4A (protein associated with toll-like receptor 4), which regulates the cell surface expression of TLR4. PRAT4A, which is also known as CAG4A or TNRC5, is a 278 amino acid protein and is expressed as two isoforms due to alternative splicing events.

REFERENCES

1. Muzio, M., et al. 2000. Toll-like receptor family and signalling pathway. Biochem. Soc. Trans. 28: 563-566.
2. Akashi, S., et al. 2000. Cutting edge: cell surface expression and lipopolysaccharide signaling via the toll-like receptor 4-MD-2 complex on mouse peritoneal macrophages. J. Immunol. 164: 3471-3475.
3. Kirschning, C.J. and Schumann, R.R. 2002. TLR2: cellular sensor for microbial and endogenous molecular patterns. Curr. Top. Microbiol. Immunol. 270: 121-144.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610047. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CNPY3 (human) mapping to 6p21.1; Cnpy3 (mouse) mapping to 17 C.

SOURCE

PRAT4A (F-6) is a mouse monoclonal antibody raised against amino acids 36-139 mapping near the N-terminus of PRAT4A of human 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.

PRAT4A (F-6) is available conjugated to agarose (sc-515151 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515151 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515151 PE), fluorescein (sc-515151 FITC), Alexa Fluor® 488 (sc-515151 AF488), Alexa Fluor® 546 (sc-515151 AF546), Alexa Fluor® 594 (sc-515151 AF594) or Alexa Fluor® 647 (sc-515151 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515151 AF680) or Alexa Fluor® 790 (sc-515151 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

PRAT4A (F-6) is recommended for detection of PRAT4A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for PRAT4A siRNA (h): sc-95269, PRAT4A siRNA (m): sc-152441, PRAT4A shRNA Plasmid (h): sc-95269-SH, PRAT4A shRNA Plasmid (m): sc-152441-SH, PRAT4A shRNA (h) Lentiviral Particles: sc-95269-V and PRAT4A shRNA (m) Lentiviral Particles: sc-152441-V.

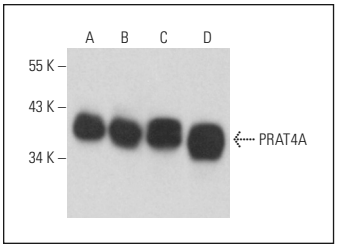
Molecular Weight of PRAT4A: 40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HEK293 whole cell lysate: sc-45136 or A2058 whole cell lysate: sc-364178.

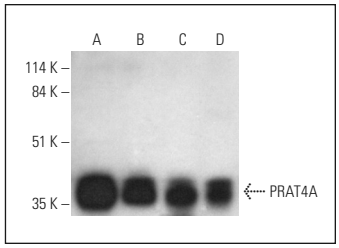
RECOMMENDED SUPPORT REAGENTS

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). 3) 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



PRAT4A (F-6): sc-515151. Western blot analysis of PRAT4A expression in Jurkat (**A**), HEL 92.1.7 (**B**), NIH/3T3 (**C**) and KNRK (**D**) whole cell lysates.



PRAT4A (F-6): sc-515151. Western blot analysis of PRAT4A expression in Jurkat (**A**), HEK293 (**B**) and A2058 (**C**) whole cell lysates and human liver tissue extract (**D**).

SELECT PRODUCT CITATIONS

1. Islam, M., et al. 2022. Cnpy3^{2xHA} mice reveal neuronal expression of Cnpy3 in the brain. J. Neurosci. Methods 383: 109730.

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.