

PRAT4A (E-22): sc-102064

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

- Muzio, M., et al. 2000. Toll-like receptor family and signalling pathway. *Biochem. Soc. Trans.* 28: 563-566.
- 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.
- Kirschning, C.J. and Schumann, R.R. 2002. TLR2: cellular sensor for microbial and endogenous molecular patterns. *Curr. Top. Microbiol. Immunol.* 270: 121-144.
- 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/>
- Kawasaki, K., et al. 2003. Identification of mouse MD-2 residues important for forming the cell surface TLR4-MD-2 complex recognized by anti-TLR4-MD-2 antibodies, and for conferring LPS and taxol responsiveness on mouse TLR4 by alanine-scanning mutagenesis. *J. Immunol.* 170: 413-420.
- Konno, K., et al. 2006. A molecule that is associated with toll-like receptor 4 and regulates its cell surface expression. *Biochem. Biophys. Res. Commun.* 339: 1076-1082.

CHROMOSOMAL LOCATION

Genetic locus: CNPY3 (human) mapping to 6p21.1.

SOURCE

PRAT4A (E-22) is a purified rabbit polyclonal antibody raised against PRAT4A of human origin.

PRODUCT

Each vial contains 50 µg IgG in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

PRAT4A (E-22) is recommended for detection of PRAT4A of 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), 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 PRAT4A siRNA (h): sc-95269, PRAT4A shRNA Plasmid (h): sc-95269-SH and PRAT4A shRNA (h) Lentiviral Particles: sc-95269-V.

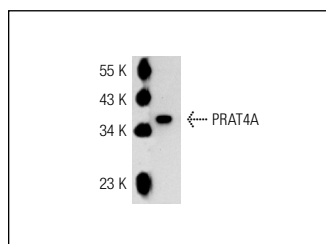
Molecular Weight of PRAT4A: 40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human muscle tissue.

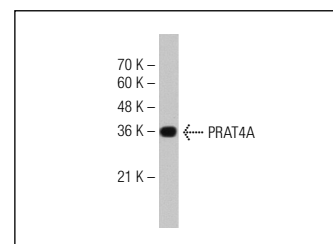
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



PRAT4A (E-22): sc-102064. Western blot analysis of PRAT4A expression in 293T whole cell lysate.



PRAT4A (E-22): sc-102064. Western blot analysis of PRAT4A expression in Jurkat whole cell lysate.

RESEARCH USE

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

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Try **PRAT4A (F-6): sc-515151**, our highly recommended monoclonal alternative to PRAT4A (E-22).