SANTA CRUZ BIOTECHNOLOGY, INC.

MD-2 (N-12): sc-20616

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lipopolysaccharide (LPS) is the principal proinflammatory component of the Gram-negative bacterial envelope. The lipopolysaccharide (LPS) receptor is a multi-protein complex that consists of at least three proteins, CD14, TLR4 and MD-2. Each of these proteins are glycosylated. Specifically, MD-2 contains two N-linked glycosylation sites at positions Asn (26) and Asn (114). MD-2 is indispensable for TLR4-dependent LPS responses because cells expressing TLR4/MD-2, but not TLR4 alone, respond to LPS. Intestinal epithelial cells (IEC) express low levels of TLR4 and MD-2 and are LPS unresponsive. T cell-derived cytokines lead to increased expression of TLR4 and MD-2, and LPS-dependent pro-inflammatory cytokine secretion in IEC. The human MD2 gene maps to chromosome 8q13.3 and encodes a 162 amino acid protein with a predicted 16-amino acid signal peptide.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605243. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. da Silva Correia, J., et al. 2002. MD-2 and TLR4 N-linked glycosylations are important for a functional lipopolysaccharide receptor. J. Biol. Chem. 277: 1845-1854.
3. Nagai, Y., et al. 2002. Requirement for MD-1 in cell surface expression of RP105/CD180 and B-cell responsiveness to lipopolysaccharide. Blood 99: 1699-1705.
4. Abreu, M.T., et al. 2002. TLR4 and MD-2 expression are regulated by immune-mediated signals in human intestinal epithelial cells. J. Biol. Chem. 277: 20431-20437.
5. Hajjar, A.M., et al. 2002. Human toll-like receptor 4 recognizes host-specific LPS modifications. Nat. Immunol. 3: 354-359.
6. LocusLink Report (LocusID: 23643). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: LY96 (human) mapping to 8q21.11.

SOURCE

MD-2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MD-2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-20616 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MD-2 (N-12) is recommended for detection of MD-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 MD-2 siRNA (h): sc-35889, MD-2 shRNA Plasmid (h): sc-35889-SH and MD-2 shRNA (h) Lentiviral Particles: sc-35889-V.

Molecular Weight of MD-2: 20-25 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

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