SANTA CRUZ BIOTECHNOLOGY, INC.

CD14 (T-19): sc-5749

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lipopolysaccharide (LPS) elicits the secretion of mediators and cytokines produced by activated macrophages and monocytes. CD14 is a glycosylphosphatidylinositol (GPI)-anchored protein found on the surfaces of monocytes and polymorphonuclear leukocytes. CD14 functions as a receptor for LPS, resulting in the secretion of various proteins. An important component in the LPS activation of monocytes through the CD14 receptor is the "adapter molecule", lipopolysaccharide binding protein (LBP). There are two forms of CD14, a membrane-associated form (mCD14), and a soluble form (sCD14). mCD14 responds to LPS alone and facilitates the secretion of proteins, while cells not expressing mCD14 fail to respond to LPS. The cells that lack mCD14 respond to LPS/LBP in the presence of sCD14.

REFERENCES

1. Simmons, D.L., et al. 1989. Monocyte antigen CD14 is a phospholipid anchored membrane protein. Blood 73: 284-289.
2. Schumann, R.R. 1992. Function of lipopolysaccharide (LPS)-binding protein (LBP) and CD14, the receptor for LPS/LBP complexes: a short review. Res. Immunol. 143: 11-15.
3. Parsons, P.E., et al. 1995. Neutrophil response to endotoxin in the adult respiratory distress syndome: role of CD14. American J. Respir. Cell Molec. Biol. 13: 152-160.
4. Bufler, P., et al. 1995. Soluble lipopolysaccharide receptor (CD14) is released via two different mechanisms from human monocytes and CD14 transfectants. Eur. J. Immunol. 25: 604-610.

CHROMOSOMAL LOCATION

Genetic locus: Cd14 (mouse) mapping to 18 B2.

SOURCE

CD14 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CD14 of rat 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-5749 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CD14 (T-19) is recommended for detection of CD14 of mouse and rat 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 CD14 siRNA (m): sc-29962, CD14 shRNA Plasmid (m): sc-29962-SH and CD14 shRNA (m) Lentiviral Particles: sc-29962-V.

Molecular Weight of CD14: 53-55 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.

SELECT PRODUCT CITATIONS

1. Akkoyunlu, G., et al. 2004. Distribution patterns of leucocyte subpopulations expressing different cell markers in the cumulus-oocyte complexes of pregnant and pseudopregnant mice. Reprod. Fertil. Dev. 15: 389-395.
2. Guan, G., et al. 2005. Estrogenic effect on swelling and monocytic receptor expression in an arthritic temporomandibular joint model. J. Steroid Biochem. Mol. Biol. 97: 241-250.
3. Budick-Harmelin, N., et al. 2008. Triglycerides potentiate the inflammatory response in rat Kupffer cells. Antioxid. Redox. Signal. 10: 2009-2022.
4. Kramer, P.R., et al. 2010. Knockdown of Fcγ receptor III in an arthritic temporomandibular joint reduces the nociceptive response in rats. Arthritis Rheum. 62: 3109-3118.
5. Thongtan, T., et al. 2012. Characterization of putative Japanese encephalitis virus receptor molecules on microglial cells. J. Med. Virol. 84: 615-623.
6. Liu, Q., et al. 2012. Engineered endothelial progenitor cells that overexpress prostacyclin protect vascular cells. J. Cell. Physiol. 227: 2907-2916.
7. Mountziaris, P.M., et al. 2012. Intra-articular controlled release of anti-inflammatory siRNA with biodegradable polymer microparticles ameliorates temporomandibular joint inflammation. Acta Biomater. 8: 3552-3560.

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.

PROTOCOLS

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