

CD14 (H-4): sc-515785

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.

CHROMOSOMAL LOCATION

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

SOURCE

CD14 (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 54-73 near the N-terminus of CD14 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD14 (H-4) is available conjugated to agarose (sc-515785 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515785 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515785 PE), fluorescein (sc-515785 FITC), Alexa Fluor® 488 (sc-515785 AF488), Alexa Fluor® 546 (sc-515785 AF546), Alexa Fluor® 594 (sc-515785 AF594) or Alexa Fluor® 647 (sc-515785 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515785 AF680) or Alexa Fluor® 790 (sc-515785 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CD14 (H-4) is recommended for detection of CD14 of mouse and rat 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 CD14 siRNA (m): sc-29962, CD14 shRNA Plasmid (m): sc-29962-SH and CD14 shRNA (m) Lentiviral Particles: sc-29962-V.

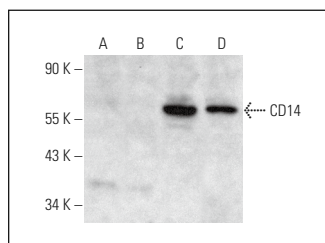
Molecular Weight of CD14: 53-55 kDa.

Positive Controls: AT3B-1 whole cell lysate: sc-364372, NRK whole cell lysate: sc-364197 or H19-7/IGF-IR whole cell lysate.

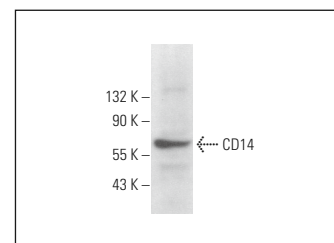
RECOMMENDED SUPPORT REAGENTS

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



CD14 (H-4): sc-515785. Western blot analysis of CD14 expression in BJAB (A), AMJ2-C8 (B), NRK (C) and H19-7/IGF-IR (D) whole cell lysates. Note lack of reactivity with human CD14 in lane A and mouse CD14 in lane B.



CD14 (H-4): sc-515785. Western blot analysis of CD14 expression in AT3B-1 whole cell lysate.

SELECT PRODUCT CITATIONS

- Girardello, R., et al. 2019. The medicinal leech as a valuable model for better understanding the role of a TLR4-like receptor in the inflammatory process. *Cell Tissue Res.* 377: 245-257.
- Liu, B., et al. 2020. HIPK3 mediates inflammatory cytokines and oxidative stress markers in monocytes in a rat model of sepsis through the JNK/c-Jun signaling pathway. *Inflammation* 43: 1127-1142.
- Fu, Y.J., et al. 2021. Baicalin prevents LPS-induced activation of TLR4/NFκB p65 pathway and inflammation in mice via inhibiting the expression of CD14. *Acta Pharmacol. Sin.* 42: 88-96.
- Fan, J., et al. 2022. MicroRNA-149 suppresses osteogenic differentiation of mesenchymal stem cells via inhibition of AKT1-dependent Twist1 phosphorylation. *Cell Death Discov.* 8: 2.
- Camino, T., et al. 2022. Brown adipose tissue sheds extracellular vesicles that carry potential biomarkers of metabolic and thermogenesis activity which are affected by high fat diet intervention. *Int. J. Mol. Sci.* 23: 10826.
- Xu, X., et al. 2024. An association between elevated telomerase reverse transcriptase expression and the immune tolerance disruption of dendritic cells. *Cell Commun. Signal.* 22: 284.

RESEARCH USE

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

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