

CD14 (61D3): sc-52457

BACKGROUND

Lipopolysaccharide (LPS) elicits the secretion of mediators and cytokines produced by activated macrophages and monocytes. CD14 is a glycosyl phosphatidylinositol (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. Kielan, T.L. and Blecha, F. 1995. CD14 and other recognition molecules for lipopolysaccharide: a review. *Immunopharmacology* 29: 187-205.
4. Camussi, G., et al. 1995. Lipopolysaccharide binding protein and CD14 modulate the synthesis of platelet-activating factor by human monocytes and mesangial and endothelial cells stimulated with lipopoly-saccharide. *J. Immunol.* 155: 316-324.

CHROMOSOMAL LOCATION

Genetic locus: CD14 (human) mapping to 5q31.3.

SOURCE

CD14 (61D3) is a mouse monoclonal antibody raised against human peripheral blood monocytes obtained from a healthy donor.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD14 (61D3) is available conjugated to fluorescein (sc-52457 FITC) 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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.

APPLICATIONS

CD14 (61D3) is recommended for detection of CD14 of human origin by 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for CD14 siRNA (h): sc-29248, CD14 shRNA Plasmid (h): sc-29248-SH and CD14 shRNA (h) Lentiviral Particles: sc-29248-V.

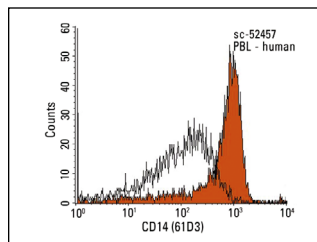
Molecular Weight of CD14: 53-55 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, BJAB whole cell lysate: sc-2207 or THP-1 cell lysate: sc-2238

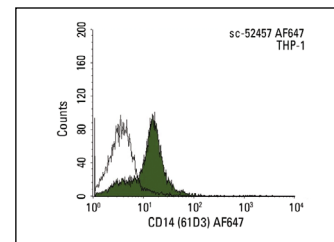
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) 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 (61D3): sc-52457. Indirect FCM analysis of human peripheral blood leukocytes stained with CD14 (61D3), followed by PE-conjugated goat anti-mouse IgG₁: sc-3764. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.



CD14 (61D3) AF647: sc-52457 AF647. FCM analysis of THP-1 cells. Black line histogram represents the isotype control, normal mouse IgG₁ Alexa Fluor[®] 647: sc-24636.

SELECT PRODUCT CITATIONS

1. Ganachari, M., et al. 2012. Host gene-encoded severe lung TB: from genes to the potential pathways. *Genes Immun.* 13: 605-620.
2. Sztitner, Z., et al. 2013. Application of fluorescent monocytes for probing immune complexes on antigen microarrays. *PLoS ONE* 8: e72401.
3. Lin, R., et al. 2016. Altered function of monocytes/macrophages in patients with autoimmune hepatitis. *Mol. Med. Rep.* 13: 3874-3880.

RESEARCH USE

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