

CD14 (UCH-M1): sc-1182

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 (human) mapping to 5q31.3.

SOURCE

CD14 (UCH-M1) is a mouse monoclonal antibody raised against thymocytes/Sezary T cells of human 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 (UCH-M1) is available conjugated to agarose (sc-1182 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1182 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1182 PE), fluorescein (sc-1182 FITC), Alexa Fluor[®] 488 (sc-1182 AF488), Alexa Fluor[®] 546 (sc-1182 AF546), Alexa Fluor[®] 594 (sc-1182 AF594) or Alexa Fluor[®] 647 (sc-1182 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-1182 AF680) or Alexa Fluor[®] 790 (sc-1182 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

CD14 (UCH-M1) is recommended for detection of CD14 monocyte specific cell surface protein 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 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.

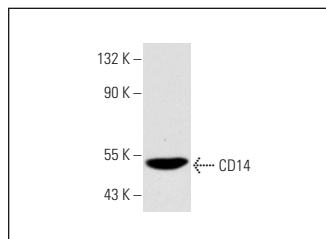
Molecular Weight of CD14: 53-55 kDa.

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

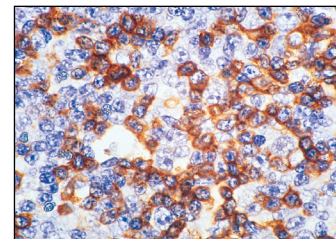
STORAGE

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

DATA



CD14 (UCH-M1): sc-1182. Western blot analysis of CD14 expression in BJAB whole cell lysate.



CD14 (UCH-M1): sc-1182. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human lymph node showing membrane staining of selected cells.

SELECT PRODUCT CITATIONS

1. Cario, E., et al. 2000. Lipopolysaccharide activates distinct signaling pathways in intestinal epithelial cell lines expressing Toll-like receptors. *J. Immunol.* 164: 966-972.
2. Sadeghi, K., et al. 2006. Vitamin D₃ down-regulates monocyte TLR expression and triggers hyporesponsiveness to pathogen-associated molecular patterns. *Eur. J. Immunol.* 36: 361-370.
3. Kuroishi, T., et al. 2007. Human parotid saliva contains soluble Toll-like receptor (TLR) 2 and modulates TLR2-mediated interleukin-8 production by monocytic cells. *Mol. Immunol.* 44: 1969-1976.
4. Quinchia-Rios, B.H., et al. 2008. Down-regulation of epidermal growth factor receptor-dependent signaling by *Porphyromonas gingivalis* lipopolysaccharide in life-expanded human gingival fibroblasts. *J. Periodontal Res.* 43: 290-304.
5. Zhang, G., et al. 2009. Lipopolysaccharide stimulates platelet secretion and potentiates platelet aggregation via TLR4/MyD88 and the cGMP-dependent protein kinase pathway. *J. Immunol.* 182: 7997-8004.
6. Zhao, J., et al. 2011. Altered biliary epithelial cell and monocyte responses to lipopolysaccharide as a TLR ligand in patients with primary biliary cirrhosis. *Scand. J. Gastroenterol.* 46: 485-494.
7. Ward, T.L., et al. 2014. Ingested soluble CD14 contributes to the functional pool of circulating sCD14 in mice. *Immunobiology* 219: 537-546.
8. Powell, J.D., et al. 2015. Construction of an *in vitro* primary lung co-culture platform derived from New Zealand white rabbits. *In Vitro Cell. Dev. Biol. Anim.* 51: 433-440.
9. Yang, J., et al. 2016. Cellular uptake of exogenous calcineurin B is dependent on TLR4/MD2/CD14 complexes, and CnB is an endogenous ligand of TLR4. *Sci. Rep.* 6: 24346.

RESEARCH USE

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