PRODUCT INFORMATION

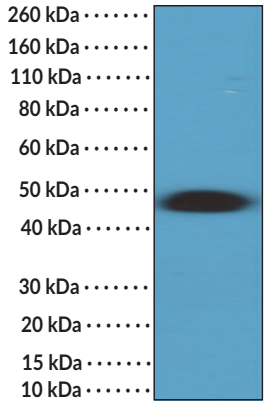
CD14 Rabbit Monoclonal Antibody

Item No. 32336

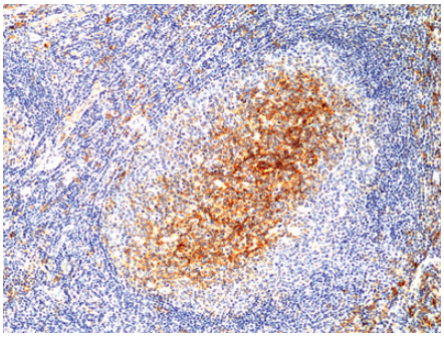
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Monocyte Differentiation Antigen CD14, Myeloid Cell-specific Leucine-rich Glycoprotein
Immunogen:	Peptide from the C-terminal region of human CD14
Cross Reactivity:	(+) CD14
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM415
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:200-1:500 and 1:100-1:200 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of human placenta cell lystate using CD14 Rabbit Monoclonal Antibody at a 1:100 dilution.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using CD14 Rabbit Monoclonal Antibody at a 1:250 dilution.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

CD14 is a membrane glycoprotein, pattern recognition receptor, and co-receptor for several toll-like receptors (TLRs).[1,2] It is composed of a C-terminal glycosylphosphatidylinositol (GPI) anchor, several sequences associated with LPS binding, and an N-terminal hydrophobic pocket containing leucine-rich repeats. CD14 is highly expressed on myeloid lineage cells, such as monocytes, dendritic cells, microglia, and macrophages, and is commonly used as a marker of monocyte differentiation.[1] It is also expressed, to a lesser extent, in non-immune cells, and a soluble form of CD14 (sCD14) can be secreted in a protease-dependent or -independent manner to confer LPS-responsiveness to cells not expressing CD14. CD14 binds LPS in a concentration- and LPS chemotype-dependent manner to induce or suppress TLR-mediated LPS responses.[1,3] It also binds to various pathogen-associated molecular patterns (PAMPs) and heat shock protein 70 (Hsp70) to induce innate immune responses and cytokine production, respectively. CD14 deficiency inhibits LPS-induced inflammation in mouse lung, intestine, and liver and is protective against LPS- or *E. coli*-induced lethal inflammation in mouse models of systemic septic shock. *CD14* expression is upregulated in monocytes, adipocytes, and whole adipose tissue isolated from individuals with obesity and patients with diabetes mellitus.[4] Cayman's CD14 (C-Term) Rabbit Monoclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Wu, Z., Zhang, Z., Lei, Z., *et al*. CD14: Biology and role in the pathogenesis of disease. *Cytokine Growth Factor Rev*. **48**, 24-31 (2019).
2. Schütt, C. Molecules in focus CD14. *Int. J. Biochem. Cell Biol*. **31(5)**, 545-549 (1998).
3. Ciesielska, A., Matyjek, M., Kwiatkowska, K., *et al*. TLR4 and CD14 trafficking and its influence on LPS-induced pro-inflammatory signaling. *Cell Mol. Life Sci*. **78**, 1233-1260 (2021).
4. Patiño, R., Ibarra, J., Rodriguez, A., *et al*. Circulating monocytes in patients with diabetes mellitus, arterial disease, and increased CD14 expression. *Am. J. Cardiol*. **85(11)**, 1288-1291 (2000).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM