

PRODUCT INFORMATION



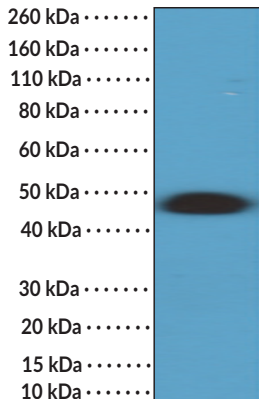
CD14 Rabbit Monoclonal Antibody (RM415)

Item No. 32336

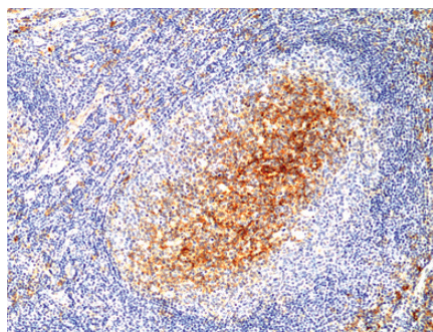
Overview and Properties

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 lysate using CD14 Rabbit Monoclonal Antibody (RM415) at a 1:100 dilution.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using CD14 Rabbit Monoclonal Antibody (RM415) at a 1:250 dilution.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/23/2024

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 (RM415) 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