

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CD14 in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Mouse IgG <sub>1</sub> Clone # 134620R
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human CD14 Thr20-Cys352 Accession # P08571
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS		
<b>Please Note:</b> Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	Measured by its ability to neutralize lipopolysaccharide (LPS)-induced TNF-α secretion in the THP-1 human acute monocytic leukemia cell line. At 10 µg/mL, this anti-human CD14 antibody will neutralize >60% of 0.5 ng/mL LPS-induced TNF-α secretion.	

DATA	
<p><b>Flow Cytometry</b></p> <p><b>Detection of CD14 in Human PBMCs by Flow Cytometry.</b> Human peripheral blood mononuclear cells (PBMCs) were stained with Mouse Anti-Human CD14 Monoclonal Antibody (Catalog # MAB3832R) followed by Goat anti-Mouse IgG APC-conjugated Secondary Antibody (Catalog # F0101B). View our protocol for <a href="#">Staining Membrane-associated Proteins</a>.</p>	<p><b>Neutralization</b></p> <p><b>TNF-α Secretion Induced by LPS and Neutralization by Human CD14 Antibody.</b> Lipopolysaccharide (LPS) stimulates TNF-α secretion in the THP-1 human acute monocytic leukemia cell line in a dose-dependent manner (orange line). TNF-α secretion elicited by LPS is neutralized (green line) by increasing concentrations of Mouse Anti-Human CD14 Monoclonal Antibody (Catalog # MAB3832R). At 10 µg/mL, this anti-human CD14 antibody will neutralize &gt;60% of 0.5 ng/mL LPS-induced TNF-α secretion.</p>

PREPARATION AND STORAGE	
<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

CD14 is a 55 kDa cell surface glycoprotein that is preferentially expressed on monocytes/macrophages. The human CD14 cDNA encodes a 375 amino acid (aa) residue precursor protein with a 19 aa signal peptide and a C-terminal hydrophobic region characteristic for glycosylphosphatidylinositol (GPI)-anchored proteins. Human CD14 has four potential N-linked glycosylation sites and also bears O-linked carbohydrates. The amino acid sequence of human CD14 is approximately 65% identical with the mouse, rat, rabbit, and bovine proteins. CD14 is a pattern recognition receptor that binds lipopolysaccharides (LPS) and a variety of ligands derived from different microbial sources. The binding of CD14 with LPS is catalyzed by LPS-binding protein (LBP). The toll-like-receptors have also been implicated in the transduction of CD14-LPS signals. Similar to other GPI-anchored proteins, soluble CD14 can be released from the cell surface by phosphatidylinositol-specific phospholipase C. Soluble CD14 has been detected in serum and body fluids. High concentrations of soluble CD14 have been shown to inhibit LPS-mediated responses. However, soluble CD14 can also potentiate LPS response in cells that do not express cell surface CD14.

#### References:

1. Wright, S.D. *et al.* (1990) *Science* **249**:1431.
2. Pugin, J. *et al.* (1993) *Proc. Natl. Acad. Sci. USA* **90**:2744.
3. Beutler, B. (2000) *Current Opinion in Immunology* **12**:20.
4. Stetter, F. (2000) *Chem. Immunol.* **74**:25.