

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD14 in direct ELISAs and Western blots. In direct ELISAs, approximately 25% cross-reactivity with recombinant mouse CD14 is observed.
Source	Polyclonal Sheep IgG
Purification	Protein A or G purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human CD14
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

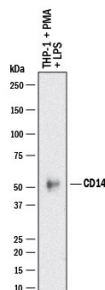
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	THP-1 human acute monocytic leukemia cell line treated with PMA and LPS
Immunohistochemistry	3-15 µg/mL	Immersion fixed paraffin-embedded sections of Human Liver and Human Tonsil

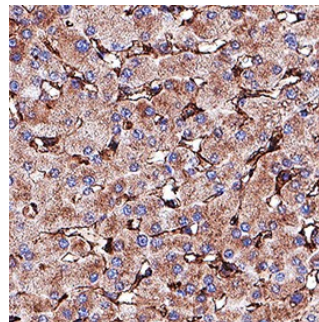
DATA

Western Blot



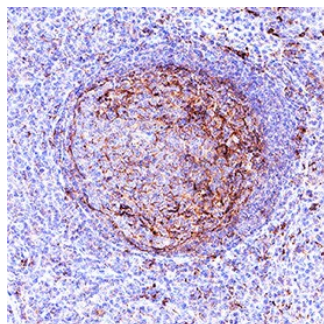
Detection of Human CD14 by Western Blot. Western blot shows lysates of THP-1 human acute monocytic leukemia cell line untreated (-) or treated (+) with 200 nM of PMA for 24 hours and 10 µg/mL of LPS for 3 hours. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human CD14 Polyclonal Antibody (Catalog # AB383) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for CD14 at approximately 55 kDa (as indicated). This experiment was conducted under non-reducing conditions and using Western Blot Buffer Group 1.

Immunohistochemistry



Detection of CD14 in Human Liver. CD14 was detected in immersion fixed paraffin-embedded sections of Human Liver using Sheep Anti-Human CD14 Polyclonal Antibody (Catalog # AB383) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Sheep IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC006). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to sinusoids. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

Immunohistochemistry



Detection of CD14 in Human Tonsil. CD14 was detected in immersion fixed paraffin-embedded sections of Human Tonsil using Sheep Anti-Human CD14 Polyclonal Antibody (Catalog # AB383) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Sheep IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC006). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to lymphocytes in germinal center. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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.