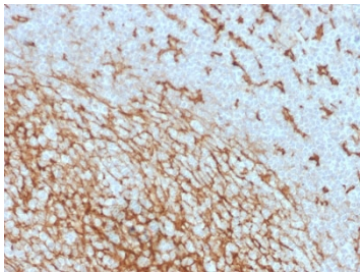
CD14 Antibody (Macrophage Marker) [clone LPSR/2408] (V3754)

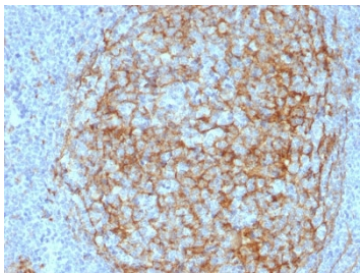
Catalog No.	Formulation	Size
V3754-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3754-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3754SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

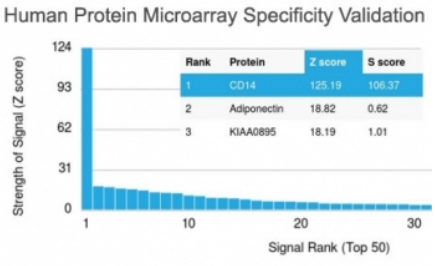
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	LPSR/2408
Purity	Protein G affinity chromatography
UniProt	P08571
Localization	Cell surface, Secreted, Cytoplasmic (Golgi)
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This CD14 antibody is available for research use only.



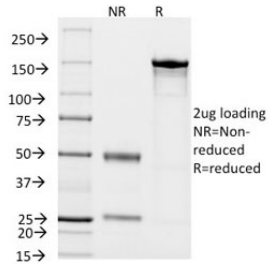
IHC analysis of CD14 antibody in human tonsil tissue. Formalin-fixed, paraffin-embedded human tonsil shows HRP-DAB brown membranous and cytoplasmic staining in macrophage-rich areas using CD14 antibody (clone LPSR/2408). Hematoxylin counterstain highlights nuclei in blue. Heat induced epitope retrieval was performed by boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9, for 10-20 minutes followed by cooling at room temperature for 20 minutes.



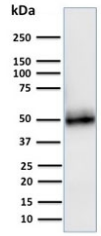
IHC analysis of CD14 antibody in human lymph node tissue. Formalin-fixed, paraffin-embedded human lymph node shows HRP-DAB brown membranous and cytoplasmic staining in macrophages and sinus histiocytes using CD14 antibody (clone LPSR/2408). Hematoxylin counterstain highlights nuclei in blue. Heat induced epitope retrieval was performed by boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9, for 10-20 minutes followed by cooling at room temperature for 20 minutes.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using CD14 antibody (clone LPSR/2408). These results demonstrate the foremost specificity of the LPSR/2408 mAb.
Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.



SDS-PAGE analysis of purified, BSA-free CD14 antibody (clone LPSR/2408) as confirmation of integrity and purity.



Western blot testing of human A549 cell lysate with CD14 antibody (clone LPSR/2408). Expected molecular weight 40-55 kDa depending on glycosylation level.

Description

CD14 antibody recognizes CD14, a glycosylphosphatidylinositol-anchored cell surface glycoprotein encoded by the CD14 gene and widely used as a macrophage marker in immunology and pathology. CD14 is predominantly expressed on monocytes, macrophages, and to a lesser extent neutrophils, where it localizes to the plasma membrane and functions as a co-receptor for the detection of bacterial lipopolysaccharide. CD14 antibody, also referred to as macrophage marker antibody and LPS receptor antibody in the literature, targets a key component of innate immune recognition pathways. CD14 cooperates with TLR4 and MD-2 to mediate cellular responses to endotoxin, triggering downstream NF-kappaB signaling and pro-inflammatory cytokine production. In addition to its membrane-bound form, a soluble form of CD14 can be detected in serum, contributing to systemic inflammatory signaling.

Structurally, CD14 belongs to the leucine-rich repeat protein family and contains multiple LRR motifs that mediate ligand interaction. The protein is heavily glycosylated, which can influence its apparent molecular weight in SDS-PAGE analyses. CD14 antibody is commonly applied in the evaluation of monocyte and macrophage distribution in tissues, including spleen, lymph node, liver, lung, and sites of chronic inflammation. In normal tissues, CD14-positive cells are typically observed within the interstitium, sinusoids, and inflammatory infiltrates. In tumor microenvironments, CD14

expression helps characterize tumor-associated macrophages, which play roles in immune modulation, angiogenesis, and tumor progression.

CD14 gene expression is regulated during myeloid differentiation and is often used to define classical monocyte subsets in peripheral blood. Altered CD14 expression has been associated with sepsis, autoimmune disorders, chronic inflammatory diseases, and cancer-related immune responses. CD14 antibody is therefore valuable for studying innate immune activation, macrophage polarization states, and inflammatory signaling pathways in both research and translational settings. Clone LPSR/2408 is designed to recognize CD14 in formalin-fixed, paraffin-embedded tissues and other research applications where macrophage identification is required. An antibody to CD14 is suitable for detecting macrophage and monocyte populations in diverse experimental contexts.

Application Notes

Variations in protocols, secondaries and substrates may require the CD14 antibody to be titered up or down for optimal performance.

Immunogen

A human recombinant partial protein (within amino acids 25-148) was used as immunogen for this CD14 antibody.

Storage

CD14 antibody with azide can be stored at 2-8oC. The azide-free format should be aliquoted and stored at -20oC or colder.