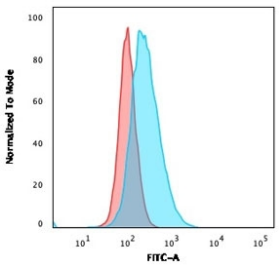
CD14 Monoclonal Antibody LPSR/2386 / LPS Receptor Antibody [clone LPSR/2386] (V3763)

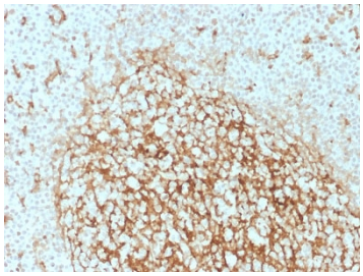
Catalog No.	Formulation	Size
V3763-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3763-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3763SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

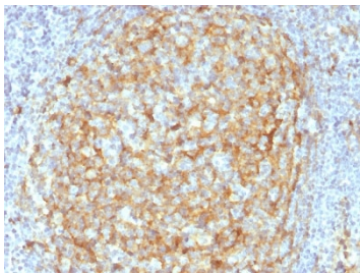
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	LPSR/2386
Purity	Protein G affinity chromatography
UniProt	P08571
Localization	Cell surface, Secreted, Cytoplasmic (Golgi)
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-2ug/10^6 cells Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This CD14 Monoclonal Antibody LPSR/2386 / LPS Receptor Antibody is available for research use only.



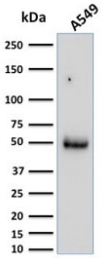
CD14 Monoclonal Antibody LPSR/2386 by FACS in Human A549 Cells. Flow cytometry analysis of human A549 cells using mouse monoclonal CD14 antibody LPSR/2386. The antibody-stained population (blue) exhibits a rightward fluorescence shift relative to the isotype control (red), indicating increased CD14-associated fluorescence. The two distributions overlap considerably, although their peaks are distinguishable. This experiment supports detection of CD14 in the tested A549 cells and demonstrates the performance of clone LPSR/2386 in flow cytometry. CD14, also known as the LPS receptor, participates in bacterial endotoxin recognition and innate immune signaling.



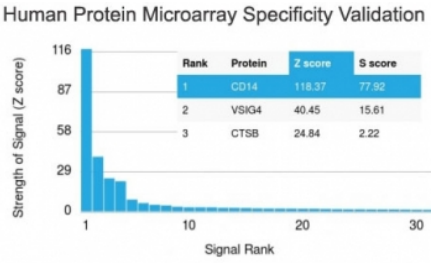
CD14 Monoclonal Antibody LPSR/2386 by IHC in Human Tonsil. Immunohistochemistry staining of FFPE human tonsil tissue using mouse monoclonal CD14 antibody LPSR/2386. Strong brown immunoreactivity highlights numerous cells within a densely populated region of the tissue. The staining outlines individual cells and produces a prominent membranous pattern, with additional cytoplasmic reactivity. Surrounding areas contain more weakly stained cells, providing contrast with the CD14-positive population. The distribution is consistent with expression of the LPS Receptor in myeloid cells within lymphoid tissue. Heat-induced epitope retrieval was performed by boiling sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 minutes, followed by cooling at room temperature for 20 minutes.



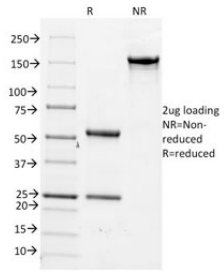
CD14 Monoclonal Antibody LPSR/2386 by IHC in Human Lymph Node. Immunohistochemistry staining of FFPE human lymph node tissue using mouse monoclonal CD14 antibody LPSR/2386. Brown immunoreactivity is concentrated within a rounded cellular region, where numerous positive cells exhibit membranous and peripheral cytoplasmic staining. The surrounding lymphoid tissue shows substantially weaker staining, emphasizing the localized distribution of CD14-positive cells. This pattern is consistent with expression of the LPS Receptor in monocyte/macrophage populations within lymphoid tissue. Heat-induced epitope retrieval was performed by boiling sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 minutes, followed by cooling at room temperature for 20 minutes.



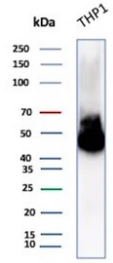
CD14 Monoclonal Antibody LPSR/2386 by WB in Human A549 Cells. Western blot analysis of human A549 cell lysate using mouse monoclonal CD14 antibody LPSR/2386. A prominent immunoreactive band is detected near 55 kDa, consistent with the expected molecular weight of mature CD14. The datasheet specifies an expected molecular weight range of 40-55 kDa, depending on glycosylation. The observed band is relatively discrete, with limited additional reactivity in the displayed molecular weight range. CD14 is a glycosylphosphatidylinositol-anchored glycoprotein that participates in bacterial lipopolysaccharide recognition. Migration near the upper end of the expected range may reflect glycosylation, although the modification status was not independently established in this experiment.



CD14 Monoclonal Antibody LPSR/2386 by Protein Microarray Specificity Analysis. HuProt protein microarray analysis of mouse monoclonal CD14 antibody LPSR/2386 against more than 19,000 full-length human proteins. CD14 produces the highest-ranked signal, with a Z-score of approximately 110.9, while other proteins generate substantially lower signals. The strong separation between CD14 and the remaining proteins supports preferential recognition of the intended target under the assay conditions. The Z-score represents signal intensity relative to the distribution of array signals, while the S-score reflects the separation between ranked protein signals. These results provide protein microarray evidence supporting the specificity of clone LPSR/2386 for CD14.



CD14 Monoclonal Antibody LPSR/2386 by SDS-PAGE Showing Antibody Integrity and Purity. SDS-PAGE analysis of purified, BSA-free mouse monoclonal CD14 antibody LPSR/2386, with approximately 2 ug of antibody loaded per lane. The non-reduced (NR) sample shows a prominent band near 150 kDa, consistent with intact immunoglobulin. Under reducing (R) conditions, bands are visible near 50 kDa and 25 kDa, corresponding to immunoglobulin heavy and light chains. This analysis demonstrates the expected molecular composition of the purified antibody preparation and serves as a quality-control assessment rather than direct validation of CD14 recognition.



CD14 Monoclonal Antibody LPSR/2386 by WB in Human THP-1 Cells. Western blot analysis of human THP-1 monocytic cell lysate using mouse monoclonal CD14 antibody LPSR/2386. A prominent, relatively broad immunoreactive signal is observed around 45-60 kDa, with the strongest intensity near 50-55 kDa. This migration is consistent with the expected 40-55 kDa molecular weight range of CD14, allowing for variation associated with glycosylation. The broad signal may reflect heterogeneous glycosylation, although this has not been independently established. THP-1 cells are commonly used to investigate monocyte differentiation and innate immune responses, making them a relevant experimental model for evaluating CD14 expression.

Description

CD14 Monoclonal Antibody LPSR/2386 recognizes CD14, a glycosylphosphatidylinositol (GPI)-anchored cell surface glycoprotein involved in innate immune recognition of microbial components. Also known as monocyte differentiation antigen CD14 and the lipopolysaccharide receptor, this protein is highly expressed by circulating monocytes, tissue macrophages, and selected dendritic cell populations. CD14 functions as a pattern recognition co-receptor that facilitates cellular responses to bacterial lipopolysaccharide (LPS), making it an important marker for studying myeloid cell differentiation, macrophage activation, and host defense.

CD14 participates in LPS recognition through interactions with lipopolysaccharide-binding protein (LBP) and the Toll-like receptor 4 (TLR4)-MD-2 signaling complex. LBP transfers LPS to CD14, which promotes its delivery to TLR4-MD-2 and facilitates downstream signaling. This process activates NF-kappaB and interferon regulatory factor pathways, resulting in the production of inflammatory cytokines and other mediators of innate immunity. CD14 also contributes to the recognition of additional microbial products and participates in receptor internalization and endosomal signaling.

CD14 exists in membrane-associated and soluble forms. Membrane CD14 is particularly abundant on monocytes and macrophages, while soluble CD14 circulates in extracellular fluids and can facilitate LPS responses in cells with limited membrane CD14 expression. Expression levels vary during monocyte differentiation and macrophage activation, allowing CD14 to serve as a useful indicator of myeloid cell identity and functional state. The receptor is frequently studied alongside CD68, CD11b, CD16, and other markers to characterize monocyte subsets and macrophage populations.

In immunological research, CD14 expression is relevant to studies of bacterial infection, sepsis, inflammatory disorders, and host-pathogen interactions. Immunohistochemical detection can reveal CD14-positive cells within complex tissues, while flow cytometry provides information about cell surface expression and population heterogeneity. A LPS Receptor Antibody can therefore support investigations of innate immune recognition and inflammatory responses.

NSJ Bioreagents offers clone LPSR/2386 for research examining CD14 expression in human tissues and cells. A CD14 Monoclonal Antibody LPSR/2386 supports studies of monocyte and macrophage differentiation, microbial recognition, and innate immune signaling.

For an alternative antibody targeting the same monocyte and macrophage surface marker, see our CD14 Antibody LPSR/2385, a mouse monoclonal antibody featuring IHC, western blot, flow cytometry, and protein microarray validation.

Application Notes

Variations in protocols, secondaries and substrates may require the CD14 Monoclonal Antibody LPSR/2386 / LPS Receptor 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 Monoclonal Antibody LPSR/2386.

Storage

CD14 Monoclonal Antibody LPSR/2386 with azide can be stored at 2-8oC. The azide-free format should be aliquoted and stored at -20oC or colder.

Alternate Names

CD14 antibody, LPS Receptor antibody, Lipopolysaccharide Receptor antibody, Monocyte Marker antibody, Macrophage Marker antibody, Monocyte Differentiation Antigen CD14 antibody, Cluster of Differentiation 14 antibody

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