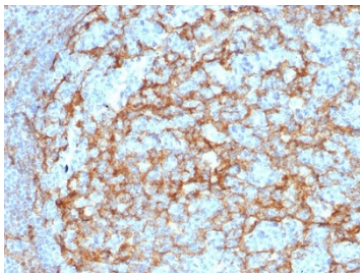
CD14 Antibody LPSR/2385 / Macrophage Marker Antibody [clone LPSR/2385] (V3758)

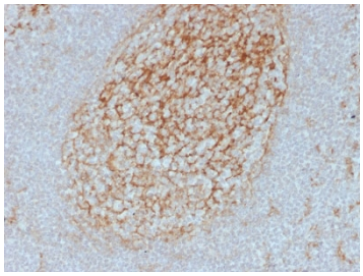
Catalog No.	Formulation	Size
V3758-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3758-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3758SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

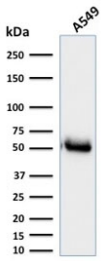
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	LPSR/2385
Purity	Protein G affinity chromatography
UniProt	P08571
Localization	Cell surface, Secreted, Cytoplasmic (Golgi)
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-2ug/10^6 cells Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This CD14 Antibody LPSR/2385 / Macrophage Marker Antibody is available for research use only.



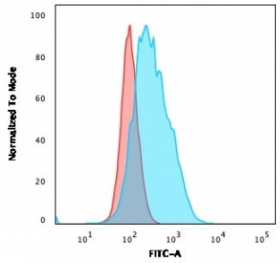
CD14 Antibody LPSR/2385 by IHC in Human Lymph Node. Immunohistochemistry staining of FFPE human lymph node tissue using mouse monoclonal CD14 antibody LPSR/2385. Strong brown immunoreactivity is visible in numerous cells distributed throughout the tissue, with prominent membranous and cytoplasmic staining. The positive cells exhibit irregular outlines and are interspersed with lighter, weakly stained regions. This pattern is consistent with CD14 expression 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.



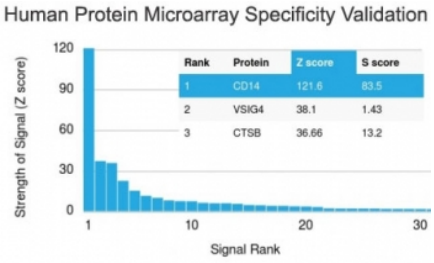
CD14 Antibody LPSR/2385 by IHC in Human Tonsil. Immunohistochemistry staining of FFPE human tonsil tissue using mouse monoclonal CD14 antibody LPSR/2385. Prominent brown staining is concentrated in a rounded cellular region, with positive cells displaying predominantly membranous and peripheral cytoplasmic immunoreactivity. Surrounding lymphoid tissue exhibits substantially weaker staining, creating clear contrast between CD14-positive and less-reactive areas. The distribution is consistent with CD14 expression in myeloid cell populations within tonsillar tissue. Heat-induced epitope retrieval was performed using 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 minutes, followed by cooling at room temperature for 20 minutes.



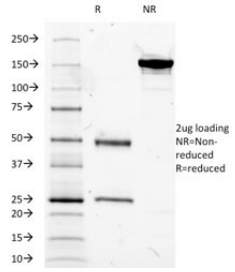
CD14 Antibody LPSR/2385 by WB in Human A549 Cells. Western blot analysis of human A549 cell lysate using mouse monoclonal CD14 antibody LPSR/2385. A prominent immunoreactive band is observed near 55 kDa, consistent with the expected molecular weight of mature CD14. The predicted molecular weight range is approximately 40-55 kDa, depending on glycosylation. CD14 is a glycosylphosphatidylinositol-anchored glycoprotein that participates in bacterial lipopolysaccharide recognition and innate immune signaling. The observed migration near the upper end of the expected range may reflect glycosylation, although the modification status was not independently established in this experiment. The relatively discrete band demonstrates recognition of a protein consistent with CD14 in human A549 lysate.



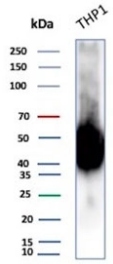
CD14 Antibody LPSR/2385 by FACS in Human A549 Cells. Flow cytometry analysis of human A549 cells using mouse monoclonal CD14 antibody LPSR/2385. The antibody-stained population (blue) exhibits a clear rightward fluorescence shift relative to the isotype control (red), indicating detectable CD14-associated fluorescence. The histogram shows separation between the two populations, supporting antibody recognition of CD14 in the tested cells. This experiment provides flow cytometry validation for clone LPSR/2385 and demonstrates its ability to detect the macrophage-associated lipopolysaccharide receptor under the experimental conditions shown.



CD14 Antibody LPSR/2385 by Protein Microarray Specificity Analysis. HuProt protein microarray analysis of mouse monoclonal CD14 antibody LPSR/2385 against more than 19,000 full-length human proteins. The specificity plot identifies CD14 as the highest-ranked protein target, with a Z-score of approximately 97.6. Other proteins produce substantially lower signals, indicating preferential recognition of CD14 under the assay conditions. The Z-score represents signal intensity relative to the distribution of array signals, while the S-score reflects separation between the intended target and other detected proteins. These results provide protein microarray evidence supporting the target specificity of clone LPSR/2385.



CD14 Antibody LPSR/2385 by SDS-PAGE Showing Antibody Integrity and Purity. SDS-PAGE analysis of purified, BSA-free mouse monoclonal CD14 antibody LPSR/2385, 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, the antibody separates into bands near 50 kDa and 25 kDa, corresponding to the immunoglobulin heavy and light chains. This experiment 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 Antibody LPSR/2385 by WB in Human THP-1 Cells. Western blot analysis of human THP-1 monocytic cell lysate using mouse monoclonal CD14 antibody LPSR/2385. A strong, relatively broad immunoreactive signal is observed around 40-60 kDa, with the most intense staining near 45-55 kDa. This migration range is consistent with the expected molecular weight of CD14, which can vary depending on glycosylation. THP-1 cells are commonly used to investigate monocyte differentiation and innate immune signaling, making them a relevant model for evaluating CD14 expression. The broad signal may reflect glycosylation heterogeneity, although this explanation has not been experimentally confirmed by the blot. The result supports recognition of CD14-associated protein in human monocytic cells.

Description

CD14 Antibody LPSR/2385 recognizes CD14, a glycosylphosphatidylinositol (GPI)-anchored cell surface glycoprotein involved in innate immune recognition of bacterial components. Also known as the lipopolysaccharide receptor and monocyte differentiation antigen CD14, this protein is prominently expressed by monocytes, macrophages, and certain dendritic cell populations. CD14 functions as a pattern recognition co-receptor that facilitates cellular responses to microbial products, particularly lipopolysaccharide (LPS) from Gram-negative bacteria. Its expression makes CD14 an established marker for studying myeloid cell differentiation, macrophage biology, and inflammatory signaling.

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 bacterial LPS to CD14, which promotes its delivery to TLR4-MD-2 and facilitates downstream signaling. Activation of this pathway stimulates NF-kappaB and interferon regulatory factor signaling, resulting in the production of inflammatory cytokines, chemokines, and other mediators of innate immune defense. CD14 also contributes to the recognition of additional microbial components and participates in receptor internalization and endosomal signaling.

Two principal forms of CD14 are recognized: membrane-associated CD14 (mCD14) and soluble CD14 (sCD14). Membrane CD14 is particularly abundant on circulating monocytes and tissue macrophages, while soluble CD14 is present in extracellular fluids and can facilitate responses to LPS in cells with limited membrane CD14 expression. CD14 expression varies during monocyte differentiation and macrophage activation, making it useful for characterizing myeloid cell populations and their responses to inflammatory stimuli.

In immunological research, CD14 is frequently examined alongside CD68, CD11b, CD16, and other markers to investigate monocyte subsets, macrophage differentiation, and innate immune activation. Its involvement in bacterial endotoxin recognition also makes CD14 relevant to studies of sepsis, inflammatory disorders, and host-pathogen interactions. A Macrophage Marker Antibody can help characterize CD14-positive cells within heterogeneous tissue and cell populations.

NSJ Bioreagents offers clone LPSR/2385 for investigations of CD14 expression and innate immune signaling. A CD14 Antibody LPSR/2385 supports research into monocyte and macrophage identification, microbial recognition, and inflammatory responses.

For additional antibodies targeting proteins involved in monocyte and macrophage differentiation, innate immune recognition, and inflammatory signaling, explore our Macrophage Antibodies collection.

Application Notes

Variations in protocols, secondaries and substrates may require the CD14 Antibody LPSR/2385 / Macrophage Marker 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 LPSR/2385.

Storage

CD14 Antibody LPSR/2385 with azide can be stored at 2-8oC. The azide-free format should be aliquoted and stored at -20oC or colder.

Alternate Names

CD14 Monoclonal antibody, Macrophage Marker antibody, Monocyte Marker antibody, LPS Receptor antibody, Lipopolysaccharide Receptor antibody, Cluster of Differentiation 14 antibody, Myeloid Cell Marker antibody

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