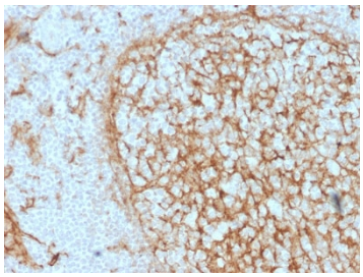
# CD14 Antibody LPSR/2397 / Monocyte Differentiation Antigen Antibody [clone LPSR/2397] (V3753)

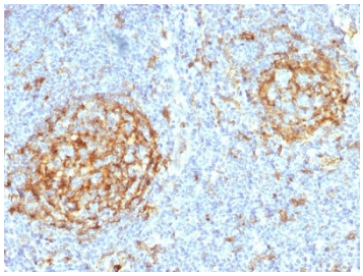
| Catalog No. | Formulation | Size |
|---|---|---|
| V3753-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 100 ug |
| V3753-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 20 ug |
| V3753SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

**Bulk quote request**

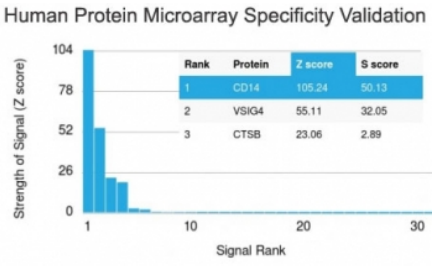
| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG2b, kappa |
| **Clone Name** | LPSR/2397 |
| **Purity** | Protein G affinity chromatography |
| **UniProt** | P08571 |
| **Localization** | Cell surface, Secreted, Cytoplasmic (Golgi) |
| **Applications** | Western blot: 2-4ug/ml<br>Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT |
| **Limitations** | This CD14 Antibody LPSR/2397 / Monocyte Differentiation Antigen Antibody is available for research use only. |



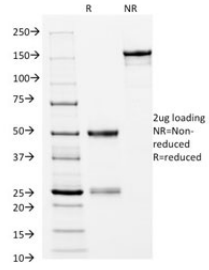
CD14 Antibody LPSR/2397 by IHC in Human Tonsil. Immunohistochemistry staining of FFPE human tonsil tissue using mouse monoclonal CD14 antibody LPSR/2397. Brown immunoreactivity highlights numerous cells distributed through the tissue, with particularly prominent staining along cellular boundaries and branching processes. The staining is predominantly membranous and peripheral cytoplasmic, contrasting with the lighter hematoxylin-counterstained background. This pattern is consistent with CD14 expression in monocyte/macrophage-associated populations within tonsillar tissue. The Monocyte Differentiation Antigen CD14 participates in bacterial lipopolysaccharide recognition and innate immune signaling. 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.



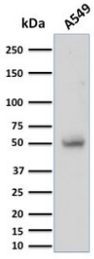
CD14 Antibody LPSR/2397 by IHC in Human Lymph Node. Immunohistochemistry staining of FFPE human lymph node tissue using mouse monoclonal CD14 antibody LPSR/2397. Strong brown immunoreactivity is concentrated within two prominent rounded cellular regions, while the surrounding lymphoid tissue exhibits considerably weaker staining. Positive cells display membranous and cytoplasmic staining, producing a heterogeneous distribution across the section. The image demonstrates localized detection of CD14-associated immunoreactivity in human lymphoid tissue. CD14 is also known as the Monocyte Differentiation Antigen and is expressed by monocytes, macrophages, and selected other myeloid populations. 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.



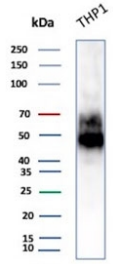

CD14 Antibody LPSR/2397 by Protein Microarray Specificity Analysis. HuProt protein microarray analysis of mouse monoclonal CD14 antibody LPSR/2397 against more than 19,000 full-length human proteins. The specificity graph identifies CD14 as the highest-ranked target, with a Z-score of approximately 110.24. The next-ranked proteins exhibit substantially lower signals, supporting preferential recognition of CD14 under the assay conditions. Z-scores represent fluorescence signals relative to the distribution of signals across the array, while the S-score measures separation between ranked protein signals. These results provide protein microarray evidence supporting the specificity of clone LPSR/2397 for the Monocyte Differentiation Antigen CD14.




CD14 Antibody LPSR/2397 by SDS-PAGE Showing Antibody Integrity and Purity. SDS-PAGE analysis of purified, BSA-free mouse monoclonal CD14 antibody LPSR/2397, with approximately 2 ug of antibody loaded under reducing (R) and non-reducing (NR) conditions. The non-reduced sample shows a prominent band near 150 kDa, consistent with intact immunoglobulin. Under reducing conditions, bands are visible near 50 kDa and 25 kDa, corresponding to the immunoglobulin heavy and light chains, respectively. This experiment confirms 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/2397 by WB in Human A549 Cells. Western blot analysis of human A549 cell lysate using mouse monoclonal CD14 antibody LPSR/2397. A prominent immunoreactive band is detected near 55 kDa, consistent with the expected molecular weight of mature CD14. The signal is relatively discrete, with limited additional reactivity in the displayed molecular weight range. CD14 is a glycosylphosphatidylinositol-anchored glycoprotein with a predicted molecular weight of approximately 40 kDa before post-translational modification. Glycosylation can increase its apparent molecular weight to approximately 50-55 kDa, providing a plausible explanation for the observed migration. This result demonstrates recognition of a protein consistent with the Monocyte Differentiation Antigen CD14 in human A549 cells.




CD14 Antibody LPSR/2397 by WB in Human THP-1 Cells. Western blot analysis of human THP-1 monocytic cell lysate using mouse monoclonal CD14 antibody LPSR/2397. A prominent immunoreactive signal is observed around 50-65 kDa, with the strongest intensity near 55 kDa. The band appears broader than the corresponding A549 signal, suggesting heterogeneity in electrophoretic mobility. CD14 is a glycosylated cell surface protein whose apparent molecular weight can vary with post-translational modification. Differences in glycosylation may contribute to the broader signal, although the experiment does not establish the cause. THP-1 cells are commonly used to investigate monocyte differentiation and innate immune responses, making them a relevant model for studying CD14 expression.

## Description

CD14 Antibody LPSR/2397 recognizes CD14, a glycosylphosphatidylinositol (GPI)-anchored cell surface glycoprotein involved in innate immune recognition of microbial components. Also known as the lipopolysaccharide receptor and monocyte differentiation antigen CD14, this protein is expressed prominently 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 investigating myeloid cell differentiation, macrophage activation, and host defense.

CD14 participates in bacterial endotoxin 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 initiates downstream signaling. This process activates pathways involving NF-kappaB and interferon regulatory factors, leading to the production of inflammatory cytokines, chemokines, and other mediators of innate immunity. CD14 also contributes to the recognition of additional microbial components 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 an indicator of myeloid cell identity and functional state. A Monocyte Differentiation Antigen Antibody can help characterize CD14-positive populations in experimental tissues and cell preparations.

In immunological research, CD14 is frequently examined alongside CD68, CD11b, CD16, and other markers to characterize monocyte subsets, macrophage differentiation, and inflammatory responses. Its involvement in bacterial endotoxin recognition also makes CD14 relevant to studies of sepsis, inflammatory disorders, and host-pathogen interactions. Detection of CD14 provides information about receptor expression and distribution in immune cell populations.

NSJ Bioreagents offers clone LPSR/2397 for investigations of human CD14 expression. The antibody was generated using a recombinant human CD14 fragment within amino acids 25-148. A CD14 Antibody LPSR/2397 supports studies of monocyte differentiation, macrophage biology, microbial recognition, and inflammatory 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 Antibody LPSR/2397 / Monocyte Differentiation Antigen 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/2397.

## Storage

CD14 Antibody LPSR/2397 with azide can be stored at 2-8oC. The azide-free format should be aliquoted and stored at -20oC or colder.

## Alternate Names

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