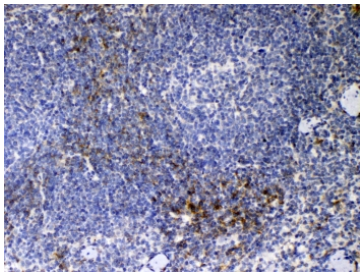
CD14 Rodent Antibody / Mouse and Rat CD14 Antibody (R32821)

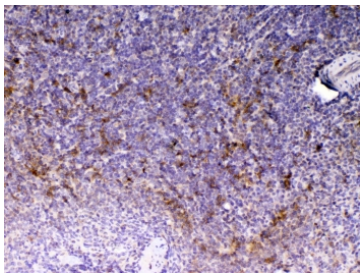
Catalog No.	Formulation	Size
R32821	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

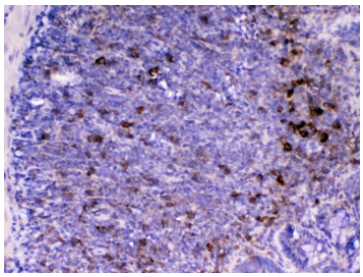
Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P10810
Localization	Cell surface, Secreted, Cytoplasmic (Golgi)
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 1-2ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This CD14 Rodent Antibody / Mouse and Rat CD14 Antibody is available for research use only.



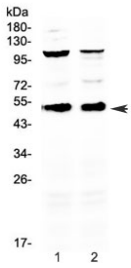
CD14 Rodent Antibody by IHC in Mouse Spleen. Immunohistochemistry staining of FFPE mouse spleen tissue using rabbit polyclonal CD14 antibody at 1 ug/ml. Scattered brown-positive cells are visible predominantly within the splenic red pulp and perifollicular regions, while the densely populated white pulp exhibits comparatively little staining. The positive cells display cytoplasmic and peripheral staining, consistent with CD14 expression in resident myeloid populations. This image demonstrates the utility of a Mouse and Rat CD14 Antibody for identifying monocyte/macrophage-associated cells within lymphoid tissue. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer, pH 6, for 20 minutes.



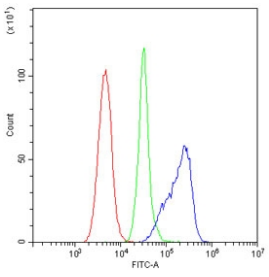
CD14 Rodent Antibody by IHC in Rat Spleen. Immunohistochemistry staining of FFPE rat spleen tissue using rabbit polyclonal CD14 antibody at 1 ug/ml. Numerous scattered brown-positive cells are distributed throughout the splenic tissue, with areas of increased staining density surrounding more lightly stained lymphoid regions. Immunoreactivity appears predominantly cytoplasmic, with staining extending toward the periphery of individual cells. The heterogeneous distribution is consistent with CD14 expression in splenic monocytes, macrophages, and related myeloid populations. This experiment demonstrates antibody reactivity in rat spleen and complements the corresponding mouse tissue validation. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer, pH 6, for 20 minutes.



CD14 Rodent Antibody by IHC in Rat Lymph Tissue. Immunohistochemistry staining of FFPE rat lymph tissue using rabbit polyclonal CD14 antibody at 1 ug/ml. Brown immunoreactivity highlights scattered individual cells and small groups of cells within the lymphoid tissue, with stronger staining concentrated in selected regions. Most surrounding lymphoid cells exhibit little or no brown staining, providing contrast with the CD14-positive population. The distribution is consistent with the presence of monocyte/macrophage-associated cells within rat lymphoid tissue. This image provides additional tissue validation for the Mouse and Rat CD14 Antibody. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer, pH 6, for 20 minutes.



CD14 Rodent Antibody by WB in Mouse Thymus and Spleen. Western blot analysis of mouse thymus lysate (lane 1) and mouse spleen lysate (lane 2) using rabbit polyclonal CD14 antibody at 0.5 ug/ml. Both samples exhibit prominent immunoreactive bands near 55 kDa, consistent with the expected molecular weight of glycosylated CD14. The bands migrate at similar positions, with the spleen sample displaying slightly greater intensity. Additional higher molecular weight bands are visible near 100 kDa in both lanes. CD14 has a predicted unmodified molecular weight of approximately 40 kDa, while glycosylation can increase its apparent molecular weight to approximately 50-55 kDa. The identity of the higher molecular weight bands has not been established by this experiment.



CD14 Rodent Antibody by FACS in Mouse Peripheral Blood Mononuclear Cells. Flow cytometry analysis of mouse peripheral blood mononuclear cells using rabbit polyclonal CD14 antibody at 1 ug per million cells following blocking with goat serum. The antibody-stained population (blue) exhibits a pronounced rightward fluorescence shift relative to the isotype control (green) and unstained cells (red). The three populations show distinct fluorescence distributions, with the CD14 antibody producing the highest fluorescence intensity. This result demonstrates detectable CD14-associated staining in mouse peripheral blood mononuclear cells and supports the use of this Mouse and Rat CD14 Antibody for flow cytometric analysis of rodent immune cell populations.

Description

CD14 Rodent Antibody 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 expressed predominantly by monocytes, macrophages, and selected dendritic cell populations. CD14 functions as a pattern recognition co-receptor that facilitates responses to bacterial lipopolysaccharide (LPS), making it an important marker for studying myeloid cell differentiation, macrophage activation, and host defense in mouse and rat models.

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 facilitates downstream signaling. This process activates inflammatory pathways involving NF-kappaB

and interferon regulatory factors, leading to the production of 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 can facilitate responses to LPS 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. A Mouse and Rat CD14 Antibody can help characterize CD14-positive populations in experimental rodent tissues and cells.

Mouse and rat models are widely used to investigate bacterial infection, sepsis, inflammatory disorders, and host-pathogen interactions. CD14 expression is frequently examined alongside CD68, CD11b, and other myeloid markers to characterize monocyte subsets, macrophage differentiation, and inflammatory responses. Immunohistochemical detection can reveal CD14-positive cells within tissues, while flow cytometry provides information about cell-associated expression. Western blot analysis can also be used to investigate CD14 protein abundance in experimental samples.

NSJ Bioreagents offers this rabbit polyclonal antibody for investigations of mouse and rat CD14 expression. The immunogen corresponds to amino acids 16-260 of mouse CD14, encompassing much of its extracellular region. A CD14 Rodent Antibody supports research into monocyte and macrophage identification, microbial recognition, and inflammatory signaling in rodent models.

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

Optimal dilution of the CD14 Rodent Antibody / Mouse and Rat CD14 Antibody should be determined by the researcher.

Immunogen

A recombinant mouse protein corresponding to amino acids S16-A260 was used as the immunogen for the CD14 Rodent Antibody.

Storage

After reconstitution, the CD14 Rodent Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Mouse CD14 antibody, Rat CD14 antibody, Rodent CD14 antibody, Monocyte Marker antibody, Macrophage Marker antibody, LPS Receptor antibody, Lipopolysaccharide Receptor antibody, Monocyte Differentiation Antigen CD14 antibody

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