abcam

ab182032

Anti-CD14 antibody [4B4F12]

Anti-CD14 antibody [4B4F12] (ab182032) is a mouse monoclonal antibody detecting CD14 in **Western Blot, Flow Cytometry, IHC-P**. Suitable for **Human, Mouse**.

- Over 30 publications

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human CD14 aa 1-250. The exact immunogen used to generate this antibody is proprietary information. Database link P08571
Clone number	4B4F12
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1/200 - 1/400
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	-

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information CD14

Function	Coreceptor for bacterial lipopolysaccharide (PubMed:1698311, PubMed:23264655). In concert with LBP, binds to monomeric lipopolysaccharide and delivers it to the LY96/TLR4 complex, thereby mediating the innate immune response to bacterial lipopolysaccharide (LPS) (PubMed:20133493, PubMed:22265692, PubMed:23264655). Acts via MyD88, TIRAP and TRAF6, leading to NF-kappa-B activation, cytokine secretion and the inflammatory response (PubMed:8612135). Acts as a coreceptor for TLR2:TLR6 heterodimer in response to diacylated lipopeptides and for TLR2:TLR1 heterodimer in response to triacylated lipopeptides, these clusters trigger signaling from the cell surface and subsequently are targeted to the Golgi in a lipid-raft dependent pathway (PubMed:16880211). Binds electronegative LDL (LDL(-)) and mediates the cytokine release induced by LDL(-) (PubMed:23880187).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-CD14 antibody [4B4F12] (ab182032) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P) in Human, Mouse samples.

What is the molecular weight of CD14?
Anti-CD14 [4B4F12] (ab182032) specifically detects a band for CD14 (UniProt: P08571) at a molecular weight of 40kDa.

Trusted by the scientific community
Anti-CD14 [4B4F12] (ab182032) was first used in a scientific publication in 2013 and has been cited over 30 times in peer-reviewed journals.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD14 also known as cluster of differentiation 14 is a glycoprotein with a molecular mass of approximately 55 kDa. This protein is expressed mainly on the surface of macrophages monocytes and to a lesser extent on neutrophils. CD14 exists in two forms: membrane-bound (mCD14) and soluble (sCD14). It functions as a co-receptor along with TLR4 (Toll-like receptor 4) and MD-2 for the detection of bacterial lipopolysaccharide (LPS) which is an important component of the outer membrane of Gram-negative bacteria.
Biological function summary	This glycoprotein plays a significant role in the innate immune system by recognizing pathogen-associated molecular patterns (PAMPs). It is part of a receptor complex where CD14 acts alongside LPS binding protein (LPS-R) TLR4 and MD-2 to facilitate pro-inflammatory signaling in response to microbial invasion. By binding to LPS CD14 initiates and amplifies the immune response leading to the production of cytokines and the recruitment of other immune cells to the site of infection.
Pathways	CD14 interacts with the toll-like receptor signaling pathway notably involving TLR4. Upon LPS detection CD14 assists in the activation of TLR4 triggering downstream signaling cascades such as NF-κB and MAPK pathways. These pathways result in the transcription of inflammatory cytokines and are essential for the host defense mechanism. The protein complex involving CD14 further interacts with adaptor proteins like MyD88 and TRIF facilitating signal propagation and the immune system's ability to respond to pathogens.
Associated diseases and disorders	Researchers have linked CD14 to sepsis and atherosclerosis. High levels of soluble CD14 (sCD14) are often observed in patients with sepsis indicating its participation in excessive systemic inflammation. In atherosclerosis CD14's role in recognizing LPS contributes to chronic inflammation and the development of plaques in arteries. Through these diseases CD14 connects with TLR4 emphasizing its impact on inflammatory responses and its potential as a therapeutic target.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

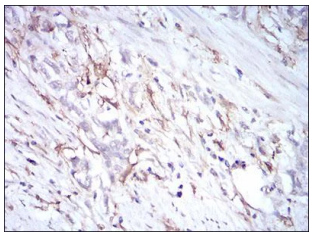
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

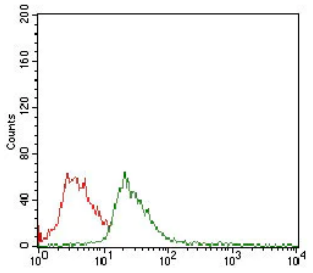
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD14 antibody [4B4F12] (ab182032)

CD14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CD14 antibody

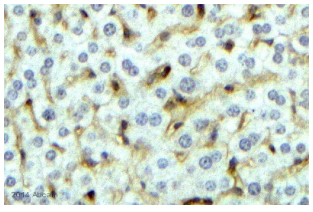
Immunohistochemical analysis of paraffin-embedded, DAB-stained Human stomach cancer tissues labeling CD14 using ab182032 at 1/200.



Flow Cytometry - Anti-CD14 antibody [4B4F12] (ab182032)

CD14 Flow Cytometry staining using mouse Anti-CD14 antibody

Flow cytometric analysis of Jurkat cells labeling CD14 using ab182032 at 1/200 (green) and a negative control (red).

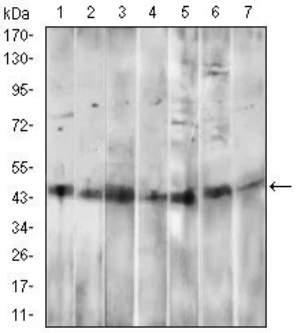


This image is courtesy of an anonymous customer review.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD14 antibody [4B4F12] (ab182032)

CD14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CD14 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse liver tissue section labeling CD14 with ab182032. The tissue was fixed with formaldehyde, heat mediated antigen retrieval was performed followed by blocking with 5% serum for 12 hours at 4°C. The tissue was incubated with undiluted Anti-CD14 antibody [4B4F12] (ab182032) for 12 hours at 4°C.



Western blot - Anti-CD14 antibody [4B4F12] (ab182032)

All lanes:
Western blot - Anti-CD14 antibody [4B4F12] (ab182032) at 1/500 dilution

Lane 1:
HepG2 cell lysate

Lane 2:
A549 cell lysate

Lane 3:
HL60 cell lysate

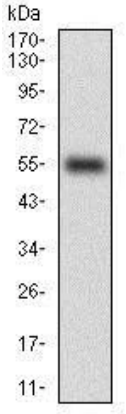
Lane 4:
mouse RAW264.7 cell lysate

Lane 5:
HeLa cell lysate

Lane 6:
HEK293 cell lysate

Lane 7:
mouse NIH 3T3 cell lysate

Predicted band size: 40 kDa

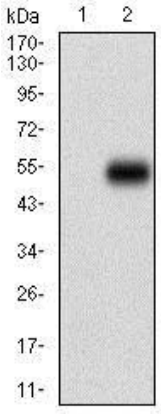


Western blot - Anti-CD14 antibody [4B4F12] (ab182032)

All lanes:
Western blot - Anti-CD14 antibody [4B4F12] (ab182032) at 1/500 dilution

All lanes:
Human CD14 recombinant protein (amino acids 20-214)

Predicted band size: 40 kDa



Western blot - Anti-CD14 antibody [4B4F12] (ab182032)

All lanes:
Western blot - Anti-CD14 antibody [4B4F12] (ab182032) at 1/500 dilution

Lane 1:
Lysate from HEK293 cells

Lane 2:
Lysate from HEK293 cells transfected with CD14 (amino acids 20-214)-hIgGFc

Predicted band size: 22 kDa, 282 kDa, 37 kDa, 39 kDa, 40 kDa, 92 kDa, 99 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.