abcam

ab186689

PE Anti-CD14 antibody [Tuk4]

Anti-CD14 antibody [Tuk4] conjugated to PE - suitable for flow cytometry, and reacts with human samples. Clone [Tuk4] is a mouse monoclonal antibody cited in 6 publications.

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Key facts

Isotype	IgG2a
Host species	Mouse
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 5% Sucrose, 1% BSA
Form	Liquid
Clonality	Monoclonal
Clone number	Tuk4
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	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Expected

Species	Pig
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Cynomolgus monkey
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Dog
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Mink
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Cat
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Llama
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Cow
Dilution info	-

Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Goat
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Sheep
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Rabbit
Dilution info	-
Notes	ab91363 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

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	Up to 12 months

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze, Store in the dark

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.

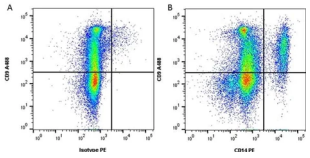
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1 product image



Flow Cytometry - PE Anti-CD14 antibody [Tuk4] (ab186689)

CD14 Flow Cytometry staining of Red cell lysed human blood using mouse Anti-CD14 antibody

Flow cytometry staining of red cell lysed human blood with ab186689.
Figure A. Alexa Fluor® 488 conjugated Mouse anti Human CD9 antibody, and RPE conjugated Mouse IgG2a isotype control. Figure B. Alexa Fluor® 488 conjugated Mouse anti Human CD9 antibody, and RPE conjugated Mouse anti Human CD14 antibody, clone TüK4 (ab186689).

All experiments performed on red cell lysed human blood (10ul neat to label $1x10^6$ cells in 100ul) gated on myeloid cells. Samples were treated with a human Fc receptor blocking reagent to minimize non-specific antibody binding during flow cytometry.

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