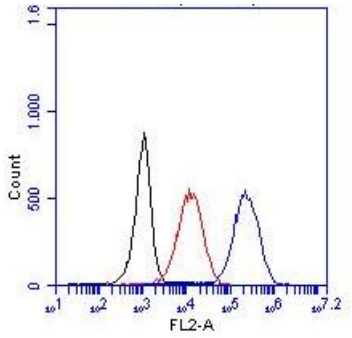
CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	CD14, Mouse, clone Sa14-2		
Catalog number	HM1060-500UG		
Lot number	-	**Expiry date**	-
Volume	-	**Amount**	500 µg
Formulation	0.2 µm filtered in PBS	**Concentration**	>0.5 mg/ml
Host Species	Rat IgG2a	**Conjugate**	None
Endotoxin	<24 EU/mg	**Purification**	Protein G
Storage	4°C		

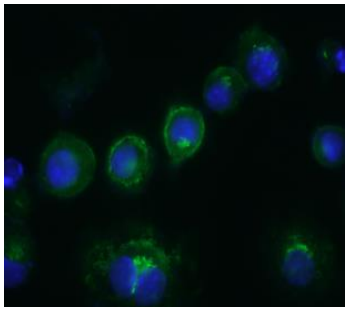
Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #			4	3				
Yes			●	●	●			
No								
N.D.	●	●				●	●	●

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



FC: 100000 RAW264.7 cells were stained with 1µg/ml HM1060 for 1h at 4°C (black – no staining; Red – isotype control; blue – HM1060)



IF: RAW264.7 cells were grown on coverslips, fixed with 1% paraformaldehyde and blocked with BSA. As primary antibody, HM1060 was used at 2 µg/ml in PBS/BSA 3%.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- Positive control: RAW cells.

General Information

Description

The monoclonal antibody Sa14-2 recognizes the mouse monocyte marker CD14. The CD14 receptor is a pattern recognition molecule in the innate immune response against microorganisms and other exogenous and endogenous stress factors. CD14 was characterized as a receptor for LPS. The CD14 gene consists of two exons which code for a single mRNA that is translated into a protein of 375 amino acids. The CD14 protein is composed of eleven leucin-rich repeats, which are also found in TLR and which are important in PAMP binding. In contrast to TLR, however, CD14 lacks a transmembrane domain, and thus cannot initiate intracellular signal transduction by itself. The most important CD14 signaling co-receptor is toll-like receptor 4 (TLR4), which activates, among others, the nuclear factor κB (NF-κB) inflammatory pathway. The CD14 protein is processed in the endoplasmatic reticulum and expressed as a 55 kDa glycoprotein on the cell surface via a glycosylphosphatidyl (GPI) anchor. Like other GPI-anchored proteins, CD14 accumulates on the cell surface in microdomains known as lipid rafts. CD14 is expressed pre dominantly on the surface of 'myeloid' cells, such as monocytes, macrophages and neutrophils, but at lower levels also on epithelial cells, endothelial cells and fibroblasts.
CD14 is also expressed in a soluble form (sCD14). sCD14 may result from secretion of the protein before coupling to the GPI anchor or from shedding or cleavage from the surface of monocytes. sCD14 is present in the circulation and other body fluids and levels of sCD14 in plasma increase during inflammation and infection. CD14 is a molecule with a broad range of functions. In addition to functioning as a pattern recognition receptor for a variety of microbial ligands,

CD14 also acts as a receptor for endogenous molecules like intercellular adhesion molecule (ICAM)-3 on the surface of apoptotic cells, amyloid peptid, ceramide, and urate crystals. Ligation of CD14 by these ligands, except for apoptotic cells, mediates activation of inflammatory responses.

Immunogen CD14 transfectant

Aliases Monocyte differentiation antigen CD14, Myeloid cell-specific leucine-rich glycoprotein, CD14

Gene Gene name: Cd14

References

1. Akashi, S et al; Lipopolysaccharide interaction with cell surface Toll-like receptor 4-MD-2: higher affinity than that with MD-2 or CD14. I. Exp. Med. 2003, *198*:1035-1042
2. Hajishengallis, G et al; Porphyromonas gingivalis fimbriae proactively modulate beta2 integrin adhesive activity and promote binding to and internalization by macrophages. Infect Immun 2006, *74*: 5658
3. Kiyokawa, T et al. A single base mutation in the PRAT4A gene reveals differential interaction of PRAT4A with Toll-like receptors. Int Immunol 2008, *20*:1407-1415
4. Wilkinson, T et al; Trappin-2 promotes early clearance of pseudomonas aeruginosa through CD14-dependent macrophage activation and neutrophil recruitment. Am J Pathol 2009, *174*: 1338
5. Bi, S et al. Galectin-9 binding to cell surface protein disulfide isomerase regulates the redox environment to enhance T-cell migration and HIV entry. PNAS 2011, *108*:10650

Storage&stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC	Date
Brenda Teunissen	05/11/2019

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.