

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	MARCO, Human, clone PLK-1	Expiry date	-
Catalog number	HM2208-1MG	Amount	1 mg
Lot number	-	Concentration	>0.5 mg/ml
Volume	-	Conjugate	None
Formulation	0.2 µm filtered in PBS	Purification	Protein G
Host Species	Mouse IgG3		
Endotoxin	<24 EU/mg		
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #	3,4		2,5,7	1,3	1,3,5,7		3	6
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

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.

- IHC-F: Tissue sections can be fixed in acetone or 2% paraformaldehyde. PLK-1 antibody was used at 5 µg/ml (Ref. 3, 4).
- FC: Antibody PLK-1 weakly stains alveolar macrophages by recognizing the extracellular domain of MARCO. Transfected COS cells were used as positive control (Ref. 1).
- FS: Antibody PLK-1 blocks human alveolar macrophages binding to unopsonized particles (Ref.1,3,5).
- IF: Alveolar macrophages and transfected CHO cells were stained for MARCO using 0.6 µg/ml PLK-1 antibody (Ref. 2, 5)
- IP: Antibody PLK-1 immunoprecipitates MARCO as 60 and 50 kDa protein from lysates obtained from COS cells transfected with human MARCO (Ref. 3).
- W: Antibody PLK-1 stained MARCO under non-reducing conditions (Ref. 6).
- Positive control: Human alveolar macrophages; Negative control: All other human cells

General Information

Description The monoclonal antibody PLK-1 recognizes the macrophage receptor with collagenous structure (MARCO). The scavenger receptors (SRs) expressed by macrophages are thought to play an important role in the immune response against bacteria by mediating ligand binding and phagocytosis. SRs can be divided into three different classes based upon their structural properties, which are termed SR-A, SR-B and SR-C. SRs-A are homotrimeric glycoproteins composed of 77 kDa monomers subdivided into 3 types.. The molecular structure of MARCO resembles that of SR-A type I, containing a triple-helical collagenous domain and a scavenger receptor cysteine-rich (SRCR) domain at the C terminus. MARCO is only expressed in some subpopulations of macrophages, although it's expression can be strongly upregulated during infection or LPS treatment. Furthermore, MARCO is, like sinusoidal endothelial cell markers DC-SIGNR, LYVE-1 and stabilin-2, expressed by sinusoidal endothelial cells in lymph node. MARCO expressed by alveolar macrophages seems to play an important role in response to inhaled particles and airborne pathogens. The monoclonal antibody PLK-1 binds specifically to MARCO, and has been shown to partially block ligand binding.

Immunogen Human alveolar macrophages (recognizes domain V between residues 420 and 431)

Aliases SCARA2, scavenger receptor class A member 2, macrophage receptor with collagenous structure

Cross reactivity Bovine: Yes; Chicken: No

- References**
1. Palecanda, A et al; Receptors for unopsonized particles: the role of alveolar macrophage scavenger receptors.. *Curr Mol Med* 2001, *1*: 589
 2. Bunn, H et al; MARCO expression on pediatric alveolar macrophages. *Cytometry* 2004, *60B*: 54
 3. Arredouani, M, et al; MARCO is the major binding receptor for unopsonized particles and bacteria on human alveolar macrophages. *J Immunol* 2005, *175*: 6058
 4. Martens, J-H et al; Differential expression of a gene signature for scavenger/lectin receptors by endothelial cells and macrophages in human lymph node sinuses, the primary sites of regional metastasis. *J Pathol* 2006, *208*: 574

5. Hamilton, R et al; MARCO mediates silica uptake and toxicity in alveolar macrophages from C57BL/6 mice. J Biol Chem 2006, *281*: 34218
6. Bowdish, D et al; MARCO, TLR2, and CD14 are required for macrophage cytokine responses to mycobacterial trehalose dimycolate and Mycobacterium tuberculosis. PloS Pathog 2009, *5*: e1000474
7. Baqir, M et al; Cigarette smoke decreases MARCO expression in macrophages: Implication in Mycoplasma pneumoniae infection. Resp. Med 2008, *102*: 1604

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
Brenda Teunissen

Date
08/10/2019

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