

**CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET**

<b>Product name</b>	MARCO, Human, clone PLK-1	<b>Expiry date</b>	-
<b>Catalog number</b>	HM2208-100UG		
<b>Lot number</b>	-	<b>Amount</b>	100 µg
<b>Volume</b>	1 ml	<b>Concentration</b>	100 µg/ml
<b>Formulation</b>	0.2 µm filtered in PBS+0.1%BSA	<b>Conjugate</b>	None
<b>Host Species</b>	Mouse IgG3	<b>Purification</b>	Protein G
<b>Endotoxin</b>	<24 EU/mg		
<b>Storage</b>	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.

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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  
03/12/2019

Do you have any questions or comments regarding this product? Please contact us via [support@hycultbiotech.com](mailto:support@hycultbiotech.com).