

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	Mannose receptor, Mouse, clone MR5D3		
Catalog number	HM1049-20UG		
Lot number	-	Expiry date	-
Volume	200 µl	Amount	20 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA	Concentration	100 µg/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 #	2,3,4		6,9	2,6,8-10	6	1,5,7	2	1,2
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.

- FC: 2% paraformaldehyde fixed cells were labeled with 10µg/ml of mAb.
- IHC-F: Sections fixed in ethanol or 2% paraformaldehyde were permeabilized with PBS/0.1% triton X100. After quenching and blocking mAb was added (10µg/ml) and incubated for 1h
- IA: mAb was used as detector at 10µg/ml for 2h.
- IP: MR was immunoprecipitated using antibody MR5D3 (10µg/ml) and GammaBind Plus sepharose (Ref. 2)
- W: Cleared lysates were run on 6% SDS-PAGE under nonreducing conditions. After transfer blot was stained with mAb (2µg/ml).
- FS: Antibody MR5D3 was used as a MR ligand to target MR+ dendritic cells resulting in anti-rat IgG production (Ref. 6).

General Information

Description The monoclonal antibody MR5D3 recognizes the Mannose Receptor (MR, also known as CD206), a member of the vertebrate C-type lectin family. MR is a pattern recognition receptor that is involved in both innate and adaptive immunity. The 175 kDa transmembrane protein consists of 5 domains: an amino-terminal cysteine-rich region, a fibronectin type II repeat, a series of eight tandem lectin-like carbohydrate recognition domains (responsible for the recognition of mannose and fucose), a transmembrane domain and an intracellular carboxy-terminal tail. The structure is shared by the family of multi lectin mannose receptors: the phospholipase A2-receptor, DEC 205 and the novel C-type lectin receptor (mannose receptor X). The MR recognises a wide range of gram positive and gram negative bacteria, yeasts, parasites and mycobacteria. Moreover, the MR has also been shown to bind and internalize tissue-type plasminogen activator.

MR's are present on monocytes and dendritic cells (DC) and are presumed to play a role in innate and adaptive immunity, the latter via processing by DC. The expression of MR as observed in immunohistology is present on tissue macrophages, dendritic cells, a subpopulation of endothelial cells, Kupffer cells and sperm cells. The expression of MR on monocytes increases during culture and can be enhanced by cytokines such as IL-4. Labelling of MR expressing monocytes/macrophages increases with prolonged incubation time probably due to internalization of the MR-antibody-complex. Detection of the MR with anti-MR monoclonal antibody MR5D3 can substitute staining for mannose containing probes as labeled mannosylated BSA, a technique which is more cumbersome and less specific.

Immunogen Chimaeric CRD4-7-Fc protein

Aliases CD206, MMR, cLEC13D, Macrophage mannose receptor 1

- References**
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 - Hassan, M et al. The schistosoma mansoni hepatic egg granuloma provides a favourable microenvironment for sustained growth of leishmania donovani. Am J Path 2006, 169:943
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5. Boskovic, J et al. Structural model for the mannose receptor family uncovered by electron microscopy of endo 180 and the mannose receptor. *J Biol Chem* 2006, *281*:8780
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8. Segura, E et al. Different cross-presentation pathways in steady-state and inflammatory dendritic cells. *PNAS* 2009 Dec 1; *106*:20377
9. Hardison, S et al. Interleukin-17 is not required for classical macrophage activation in a pulmonary mouse model of *Cryptococcus neoformans* infection. *Infect&immune* 2010, *78*:5341
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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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Approved by Manager of QC
Brenda Teunissen

Date
28/10/2020

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