

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	Mannose receptor, Human, clone 15-2		
Catalog number	HM2056-20UG		
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	Mouse IgG1	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 #	1,2,3,6	2		2	1,4,5			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



IHC-F: frozen sections of human tonsil. HM2056 was used in a dilution of 1/25 and stains endothelia of lymph vessels strongly.

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.

- F: Tissue sections were fixed in acetone/chloroform. Sections were preincubated with normal rabbit serum (Ref.3).
- FC: Antibody 15-2 stains the extracellular domain of MR.
- W: A non-reduced sample treatment and 6% SDS-Page was used. The band size is 175 kDa (Ref.1).
- FS: Antibody 15-2 functions as an inhibitor of binding. The antibody was functionally tested by preincubation of immobilized receptor with antibody. This prevented binding of t-PA to immobilized receptor. (Ref.1).
- Positive control: Macrophages (in coronary atherosclerotic plaque), placenta tissue, Hofbauer cells (fetal macrophages), liver tissue; Negative control: Lymphocytes, Monocytes.

General Information
Description

The monoclonal antibody 15-2 recognizes the mannose receptor (MR), also known as CD206, a member of the vertebrate C-type lectin family. The mannose receptor, is a pattern recognition receptor that is involved in both innate and adaptive immunity. The 175 kDa single-pass type I transmembrane receptor 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 binds high-mannose structures on a wide range of gram positive and gram negative bacteria, yeasts, parasites and mycobacteria. 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 as IFN-gamma. Labeling of MR expressing monocytes/macrophages increases with prolonged incubation time probably due to internalization of the MR-antibody-complex. The monoclonal antibody 15-2 prevents binding of glycoproteins including t-PA to MR. Detection of the MR with anti-MR monoclonal antibody 15-2 can substitute staining for mannose containing probes as labeled mannosylated BSA, a technique which is more cumbersome and less specific.

Immunogen	Purified human mannose receptor from human placental tissue
Aliases	Machrophage Mannose Receptor 1, MRC1, CLEC13D, MMR, C-type lectin domain family 13 member D
Gene	Gene name: MRC1
References	<ol style="list-style-type: none">1. Barret-Berghoeff, M et al; Monoclonal antibodies against the human mannose receptor that inhibit the binding of tissue-type plasminogen activator. <i>Thromb Haemostas</i> 1997, <i>77</i>: 7182. Noorman, F et al; Monoclonal antibodies against the human mannose receptor as a specific marker in flow cytometry and immunohistochemistry for macrophages. <i>J Leukocyte Biol</i> 1997, <i>61</i>: 633. Noorman, F et al; Cluster mannosides can inhibit mannose receptor-mediated tissue-type plasminogen activator degradation by both rat and human cells. <i>Hepatology</i> 1997, <i>26</i>: 13034. Tailleux, L et al; DC-SIGN is the major mycobacterium tuberculosis receptor on human dendritic cells. <i>J Exp Med</i> 2003, <i>197</i>: 1215. Pressice, P et al; Keyhole limpet hemocyanin induces the activation and maturation of human dendritic cells through the involvement of mannose receptor. <i>Mol Immunol</i> 2008, <i>45</i>: 11366. Tahara, N et al; 2-deoxy-2-[(18)F]fluoro-d-mannose positron emission tomography imaging in atherosclerosis. <i>Nat Med</i> 2014, <i>20</i>: 215
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
16/11/2020

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