CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	MCP-1, Human, clone MNA.1		
Catalog number	HM2011-20UG		
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	5,7,9		6	1	1,4,8	3	1
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: Antibody MNA.1 stains intracellular MCP-1. For intracellular staining HUVEC cells were permeabilized with buffer containing 0.1% saponin. The cells were fixed in 4% paraformaldehyde before staining. As negative control a corresponding isotype control antibody was used (Ref.6).
- W: A reduced sample treatment and 15% SDS-Page was used. The band sizes are ~14 and 11 kDa (Ref.1).
- IHC-P: Tissue sections were fixed in formalin and pretreated with hydrogen peroxide to quench endogenous peroxidases. Antigen retrieval was performed by pressure cooking for 3 minutes in PBS. As negative control the MNA.1 antibody was omitted (Ref.7).
- IHC-F: Tissue sections were air dried and pretreated with 3% hydrogen peroxide to quench endogenous peroxidases. As negative control the MNA.1 antibody was omitted (Ref.2).
- FS: Antibody MNA.1 inhibits migration of monocytes by neutralizing MCP-1(Ref.1).

General Information

Description

Monoclonal antibody MNA.1 (formerly known as 5D3-F7) recognizes human natural and recombinant monocyte chemotactic protein-1 (MCP-1). Monocyte chemotactic protein-1 (MCP-1) is a 11 kDa protein belonging to the CC subgroup of the chemokine superfamily, which stimulate the migration of monocytic cells. In contrast, the CXC chemokines predominantly activate polymorphonuclear leukocytes. The coordinated synthesis and release of MCP-1 plays a central role in both acute and chronic inflammatory processes by controlling the influx of phagocytic cells. Furthermore, their state of activation is in concert with primary inflammatory cytokines, such as IL-1, TNF-a, and IL-6. A selective accumulation of MCP-1 in the cerebrospinal fluid (CSF) of AIDS patients with cytomegalovirus encephalitis, but not with other opportunistic infections or primary lymphomas of the central nervous system , has been described. Furthermore, the chemotactic activity of MCP-1 on monocytic cells has been suggested to play a role in psoriasis, rheumatoid arthritis and atherosclerosis. No cross-reactivity of mAb MNA.1 with other cytokines has been detected.

Immunogen

Recombinant human MCP-1

Aliases

C-C motif chemokine 2, CCL2, small-inducible cytokine A2, MCAF, HC11

Cross reactivity

Human MCP-2: No; Human MCP-3: No; Porcine MCP-1: Yes.

References

1. Peri, G et al; A new monoclonal antibody (5D3-F7) which recognizes human monocyte-chemotactic protein-1 but not related chemokines. Development of a sandwich ELISA and in situ detection of producing cells. J Immunol Meth 1994, *174*:249
2. Wysocki, S et al; Monocyte chemoattractant protein-1 gene expression in injured pig artery coincides with early appearance of infiltrating monocyte / macrophages. J Cell Biochem 1996, *62*: 303
3. Hirsch, A et al; Human cytomegalovirus inhibits transcription of the CC chemokine MCP-1 gene. J Virol 1999, *73*: 404
4. Vicenzi, E et al; Divergent regulation of HIV-1 replication in PBMC of infected individuals by CC chemokines: suppression by RANTES, MIP-1α, and MCP-3, and enhancement by MCP-1. J Leukoc Biol 2000, *68*: 405

5. Monti, P et al; The CC Chemokine MCP-1/CCL2 in pancreatic cancer progression: regulation of expression and potential mechanisms of antimalignant activity. Cancer Res 2003, *63*: 7451
6. Goebeler, M et al; Multiple signaling pathways regulate NF-kB–dependent transcription of the monocyte chemoattractant protein-1 gene in primary endothelial cells. Blood 2001, *97*:46
7. Bailey, C et al; Chemokine expression is associated with the accumulation of tumour associated macrophages (TAMs) and progression in human colorectal cancer. Clin Exp Metastasis 2007, *24*: 121
8. Nagarajan, S et al; Dietary soy protein isolate ameliorates atherosclerotic lesions in apolipoprotein E-deficient mice potentially by inhibiting monocyte chemoattractant protein-1 expression. J Nutr 2008, *138*: 332
9. Celie, J et al; Tubulointerstitial heparan sulfate proteoglycan changes in human renal diseases correlate with leukocyte influx and proteinuria. Am J Physiol Renal Physiol 2008, *294*: F253

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

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Approved by Manager of QC	Date
Brenda Teunissen	16/11/2020

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