Mouse monocyte chemotactic protein 1/monocyte chemotactic and activating factor,MCP-1/MCAF ELISA kit

Product Code	CSB-E07430m
Protein Biological Process 2	chemokine
Abbreviation	CCL2
Protein Biological Process 1	Immunity
Target Name	chemokine (C-C motif) ligand 2
Uniprot No.	P10148
Alias	GDCF-2, HC11, HSMCR30, MCAF, MCP-1, MCP1, MGC9434, SCYA2, SMC-CF, monocyte chemoattractant protein-1|monocyte chemotactic and activating factor|monocyte secretory protein JE|small inducible cytokine
Product Type	ELISA Kit
Immunogen Species	Mus musculus (Mouse)
Protein Biological Process 3	Chemotaxis
Sample Types	serum, plasma, tissue homogenates
Detection Range	78 pg/mL-5000 pg/mL
Sensitivity	19.5 pg/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Immunology
Gene Names	Ccl2
Tag Info	quantitative
Protein Description	Sandwich
Description	The mouse MCP-1 ELISA kit uses the quantitative sandwich enzyme immunoassay technique to measure the levels of mouse MCP-1 in the serum, plasma, or tissue homogenates. Antibody specific for MCP-1 has been pre-coated onto the microplate. Standards and samples are pipetted into the wells

and any MCP-1 present is bound by the immobilized antibody. After removing any unbound substances, a biotin-conjugated MCP-1 antibody is added to the wells. After washing, avidin conjugated HRP is added to the wells, forming an antibody-antigen-enzyme-labeled antibody complex. Following a wash to remove any unbound HRP-avidin, the TMB substrate solution is added to the wells, and the color develops into blue. The color changes from blue to yellow after adding the stop solution to the wells. The color intensity is proportional to the amount of MCP-1 bound in the initial step.

CCL2, also known as MCP-1, is a monocyte chemoattractant protein well-known for its ability to drive the chemotaxis of myeloid and lymphoid cells. CCL2 is found in the circulation and has been identified as a diagnostic biomarker of breast cancer and prostate cancer. In tissues, CCL2 attracts leukocytes to sites of infection or injury to mediate defense and repair. The CCL2-CCR2 signaling initiates several intracellular downstream signaling pathways, including JAK2/STAT3, MAPK, and PI3K pathways that are involved in tumor progression, such as increasing tumor cell proliferation and invasiveness and creating a tumor microenvironment through increased angiogenesis and recruitment of immunosuppressive cells. CCL2 is involved in the pathogenesis of inflammatory and neurodegenerative diseases, such as atherosclerosis, diabetes, rheumatoid arthritis (RA), neuropathic pain, and multiple sclerosis.

Target Details

This gene is one of several cytokine genes clustered on the q-arm of chromosome 17. Cytokines are a family of secreted proteins involved in immunoregulatory and inflammatory processes. This protein is structurally related to the CXC subfamily of cytokines. Members of this subfamily are characterized by two cysteines separated by a single amino acid. This cytokine displays chemotactic activity for monocytes and basophils but not for neutrophils or eosinophils. It has been implicated in the pathogenesis of diseases characterized by monocytic infiltrates, like psoriasis, rheumatoid arthritis and atherosclerosis. It binds to chemokine receptors CCR2 and CCR4.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%
Three samples of known concentration were tested twenty times on one plate to assess.
Inter-assay Precision (Precision between assays): CV%<10%
Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of mouse MCP-1 in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

?	Sample	Serum(n=4)
1:1	Average %	88
	Range %	82-94
1:2	Average %	95
	Range %	91-98
1:4	Average %	102
	Range %	96-108

	1:8	Average %	95
		Range %	89-98

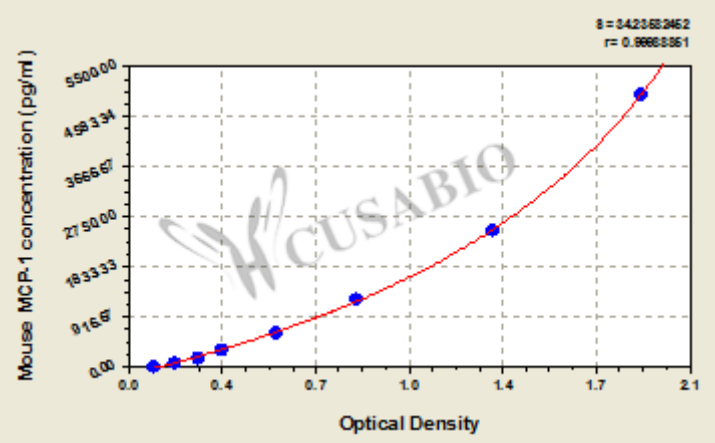
Recovery

The recovery of mouse MCP-1 spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	88	82-94
EDTA plasma (n=4)	97	92-104

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



pg/ml	OD1	OD2	Average	Corrected
5000	1.946	1.864	1.905	1.806
2500	1.294	1.414	1.354	1.255
1250	0.861	0.843	0.852	0.753
625	0.555	0.546	0.551	0.452
312	0.347	0.356	0.352	0.253
156	0.267	0.258	0.263	0.164
78	0.171	0.179	0.175	0.076
0	0.099	0.098	0.099	?

Msds

{"0":{"fileurl":"https://www.cusabio.com/uploadfile/msds/MSDS CSB-E07430m.pdf","filename":"MSDS"}}