

Anti-CCL2 [MC32 affinity matured] Standard Size Ab03459-10.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

Isotype and Format: Human IgG1, Fc Silent™, Kappa

Clone Number: MC32 affinity matured

Alternative Name(s) of Target: MC32#56; MCP-1; MCP1; HC11; MCAF; C-C motif chemokine 2; monocyte chemoattractant protein 1; monocyte chemotactic and activating factor; Monocyte chemotactic protein 1; Monocyte secretory protein JE; Small-inducible cytokine A2

UniProt Accession Number of Target Protein: P13500

Published Application(s): Block, ELISA

Published Species Reactivity: Human

Immunogen: The original antibody was isolated from a human scFv phage display library generated from the peripheral blood of 20 healthy donors by panning the library against human CCL2. Later on the scFv antibody was converted to a human IgG1 version using the variable regions of the scFv antibody and human framework regions.

Specificity: This antibody binds human CCL2, which is a small chemokine molecule that acts as a ligand for C-C chemokine receptor (CCR2). The binding with CCR2 triggers strong chemotactic response and mobilization of intracellular calcium ions. CCL2 tightly regulates cellular mechanics and recruits monocytes, memory T cells and dendritic cells to the sites of inflammation. It exhibits a chemotactic activity for monocytes and basophils but not neutrophils or eosinophils.

Application Notes: This antibody is the affinity matured version of original scFv antibody MC32. The binding characterization of this antibody to human CCL2 was done using ELISA. This antibody binds human CCL2 with a binding affinity of $K_d = 1.4$ nM. This antibody exhibited blocking activity for the MCP-1-induced chemotaxis of a human acute monocytic leukemia cell line, THP-1, in vitro. In the chemotaxis assay, the original parent antibody MC32 IgG inhibited the MCP-1-induced THP-1-migration 2.5-fold more strongly than MC32 scFv in reference to IC50 (PMID: 18216066).

Antibody First Published in: Yoshinaga et al. Ig L-chain shuffling for affinity maturation of phage library-derived human anti-human MCP-1 antibody blocking its chemotactic activity. J Biochem. 2008 May;143(5):593-601. [PMID:18216066](#)

Note on publication: Describes the generation of an affinity matured version of an scFv antibody using light chain shuffling.

Product Form

Size: 100 µg Purified antibody.

Purification: Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration:

1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.