

## Anti-CCL2 [MC32 affinity matured] Standard Size Ab03459-23.0

This chimeric rabbit antibody was made using the variable domain sequences of the original Human IgG1 format for improved compatibility with existing reagents assays and techniques.

**Isotype and Format:** Rabbit IgG, 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.