Animal-Free MCP-1/CCL2 Protein, Mouse (His)

Cat. No.:	HY-P700164AF
Synonyms:	Monocyte Chemotactic Protein-1; MCP-1; JE
Species:	Mouse
Source:	E. coli
Accession:	P10148 (Q24-N148)
Gene ID:	20296
Molecular Weight:	Approximately 14.65 kDa

PROPERTIES

AA Sequence	Q P D A V N A P L T C C Y S F T S K M I P M S R L E S Y K R I T S S R C P K E A V V F V T K L K R E V C A D P K K E W V Q T Y I K N L D R N Q M R S E P T T L F K T A S A L R S S A P L N V K L T R K S E A N A S T T F S T T T S S T S V G V T S V T V N
Biological Activity	Measure by its ability to chemoattract BaF3 cells transfected with CCR2A. The ED_{50} for this effect is <8 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 7.4.
Endotoxin Level	<0.1 EU per 1 μg of the protein by the LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	MCP-1/CCL2 protein acts as a ligand for C-C chemokine receptor CCR2, initiating a robust chemotactic response and intracellular calcium mobilization through CCR2 binding and activation. It demonstrates chemotactic activity for monocytes and basophils while not affecting neutrophils or eosinophils. Playing a pivotal role in mediating peripheral nerve injury-induced neuropathic pain, MCP-1/CCL2 also enhances NMDA-mediated synaptic transmission in both dopamine D1 and D2 receptor-containing neurons, potentially involving MAPK/ERK-dependent phosphorylation of GRIN2B/NMDAR2B. Existing as a monomer or homodimer in equilibrium, it is tethered to endothelial cells by glycosaminoglycan (GAG) side chains of proteoglycans and interacts with TNFAIP6 through its Link domain.

Caution: Product has not been fully validated for medical applications. For research use only.

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