

Active Recombinant Human MARCO protein, His-tagged

Cat. No. MARCO-5940H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human MARCO(Met79-Val520) fused with His tag at N-terminal was expressed in CHO.
Species	Human
Source	CHO
ProteinLength	79-520 a.a.
Description	MARCO (macrophage receptor with collagenous structure), also known as SCARA2, is an 80 kDa type II transmembrane glycoprotein in the class A scavenger receptor family. Human MARCO consists of a 43 aa cytoplasmic domain, a 21 aa transmembrane segment, and a 456 aa extracellular domain (ECD) that includes a stalk region, a collagen-like region, and one SRCR domain. Within the ECD, human MARCO shares 69% aa sequence identity with mouse and rat MARCO. MARCO is constitutively expressed on the surface of splenic and lymph node macrophages. Its expression can be induced on Kupffer cells, alveolar macrophages, and glial cells by microbial infection, chemical irritants, and Th1 polarizing factors. The SRCR domain mediates binding of MARCO to its various ligands, while the collagen-like region mediates assembly into a disulfide-linked trimer. MARCO binds bacterial LPS and lipoteichoic acid, modified LDL, CpG oligonucleotides, UGRP1, silica, and TiO₂. It interacts in cis with the formyl peptide receptors FPR1 and FPRL1 on astrocytes and microglia. MARCO ligation promotes the production of inflammatory mediators by macrophages. MARCO mediated internalization of

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some ligands prevents their activation of cell surface TLR4 but enables their activation of intracellular TLR3. MARCO contributes to the clearance of apoptotic cells and inhaled bacteria, mast cell mediated silicosis, and the amelioration of allergen or ozone induced lung inflammation. It is required for the organization of the splenic marginal zone and the interaction of splenic macrophages and B cells.

Predicted N Terminal	His
Form	Lyophilized from a 0.2 µm filtered solution in PBS.
Bio-activity	Measured by its ability to bind fluorescein-conjugated E. coli Bioparticles. Sankala, M. et al. (2002) J. Biol. Chem. 277:33378. The ED50 for this effect is typically 0.3-1.5 µg/mL.
Molecular Mass	Predicted Molecular Mass: 44.7 kDa;SDS-PAGE: 60-70 kDa, reducing conditions.
Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Storage	Avoid repeated freeze-thaw cycles.12 months from date of receipt, -20 to -70 centigrade as supplied.1 month, 2 to 8 centigrade under sterile conditions after reconstitution.3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 250 µg/mL in PBS.

GENE INFORMATION

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Gene Name	MARCO macrophage receptor with collagenous structure [Homo sapiens]
Official Symbol	MARCO
Synonyms	MARCO; macrophage receptor with collagenous structure; macrophage receptor MARCO; SCARA2; scavenger receptor class A; member 2; scavenger receptor class A member 2; scavenger receptor class A, member 2;
Gene ID	8685
mRNA Refseq	NM_006770
Protein Refseq	NP_006761
MIM	604870
UniProt ID	Q9UEW3
Chromosome Location	2q14.2
Pathway	Phagosome, organism-specific biosystem; Phagosome, conserved biosystem;
Function	pattern recognition receptor activity; scavenger receptor activity; transmembrane signaling receptor activity;