

## DESCRIPTION

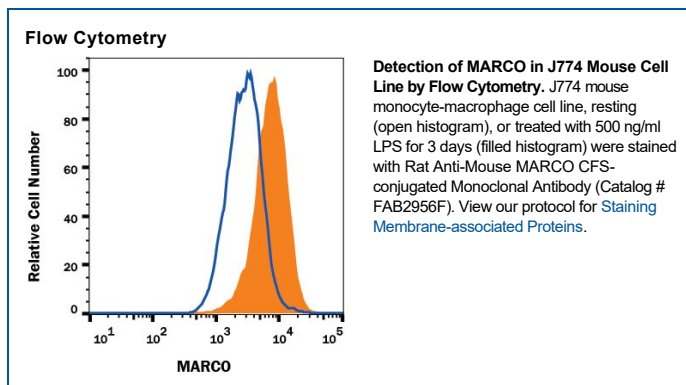
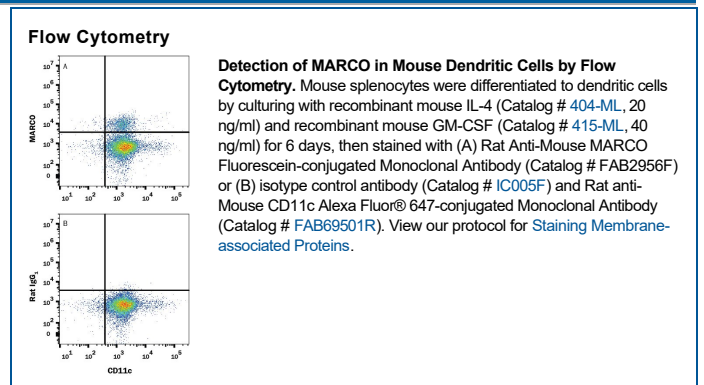
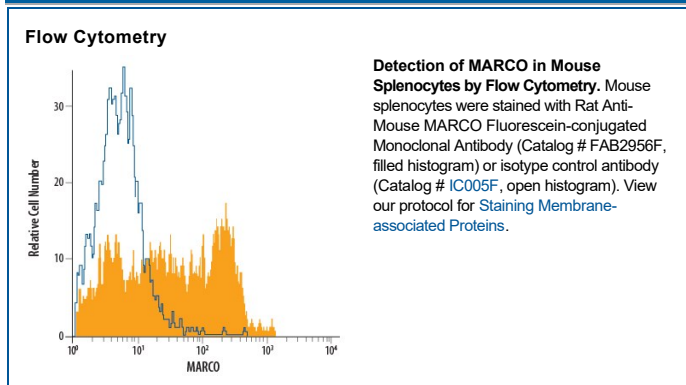
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse MARCO in direct ELISAs.
<b>Source</b>	Monoclonal Rat IgG <sub>1</sub> Clone # 579511
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse MARCO Gln70-Ser518 Accession # Q60754
<b>Conjugate</b>	Fluorescein Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm (FITC)
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

**BACKGROUND**

MARCO (macrophage receptor with collagenous structure), also known as SCARA2, is an 80 kDa type II transmembrane glycoprotein that belongs to the class A scavenger receptor family (1). Mouse MARCO consists of a 48 amino acid (aa) cytoplasmic domain, a 21 aa transmembrane segment, and a 449 aa extracellular domain (ECD) that includes a stalk region, a collagen-like region, and one SRCR domain (2). Within the ECD, mouse MARCO shares 69% and 86% aa sequence identity with human and rat MARCO, respectively. It shares 18%-28% aa sequence identity with other mouse class A scavenger receptors CL-P1, SCARA3, SCARA5, and SR-A1/MSR. MARCO is constitutively expressed on the surface of splenic and lymph node macrophages (2, 3). Its expression is induced on Kupffer cells and alveolar macrophages by microbial infection, chemical irritants, and Th1 polarizing factors (3-5). MARCO binds LPS, lipoteichoic acid, and other determinants on Gram positive and Gram negative bacteria (2, 6-8). It also binds modified LDL, CpG oligonucleotides, UGRP1, silica, and TiO<sub>2</sub> (2, 9-11). MARCO is required for the organization of the splenic marginal zone and the interaction of local macrophages and B cells (12, 13). The SRCR domain mediates binding of MARCO to its various ligands (3, 12), while the collagen-like region mediates assembly into a disulfide-linked trimeric molecule (2, 7). MARCO ligation induces, but is not required for the production of IL-12, NO, or TNF- $\alpha$  by macrophages (5, 6, 9). MARCO knockout mice show a reduced clearance of bacterial infections, reduced mast cell mediated silicosis, increased pulmonary inflammation, and increased sensitivity to ozone induced lung damage (4, 9, 14-16).

**References:**

1. Murphy, J.E. *et al.* (2005) *Atherosclerosis* **182**:1.
2. Elomaa, O. *et al.* (1995) *Cell* **80**:603.
3. Van der Laan, L.J.W. *et al.* (1999) *J. Immunol.* **162**:939.
4. Dahl, M. *et al.* (2007) *J. Clin. Invest.* **117**:757.
5. Jozefowski, S. *et al.* (2005) *J. Immunol.* **175**:8032.
6. Mukhopadhyay, S. *et al.* (2006) *Eur. J. Immunol.* **36**:940.
7. Sankala, M. *et al.* (2002) *J. Biol. Chem.* **277**:33378.
8. Chen, Y. *et al.* (2006) *J. Biol. Chem.* **281**:12767.
9. Jozefowski, S. *et al.* (2006) *J. Leukoc. Biol.* **80**:870.
10. Bin, L.-H. *et al.* (2003) *J. Immunol.* **171**:924.
11. Hamilton, Jr. R.F. *et al.* (2006) *J. Biol. Chem.* **281**:34218.
12. Karlsson, M.C.I. *et al.* (2003) *J. Exp. Med.* **198**:333.
13. Chen, Y. *et al.* (2005) *J. Immunol.* **175**:8173.
14. Arredouani, M. *et al.* (2004) *J. Exp. Med.* **200**:267.
15. Arredouani, M.S. *et al.* (2007) *J. Immunol.* **178**:5912.
16. Brown, J.M. *et al.* (2007) *Am. J. Respir. Cell Mol. Biol.* **36**:43.