Human M-CSF R APC-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 61708

Catalog Number: FAB329A

100 TESTS, 25 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human M-CSF R in direct ELISAs and Western blots. Does not cross-react with recombinant human (rh) GM-CSF Rα or rhGM-CSF Rβ.
Source	Monoclonal Mouse IgG_1 Clone # 61708
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human M-CSF R Ile20-Glu512 (Pro54Ala) Accession # P07333.2
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	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.

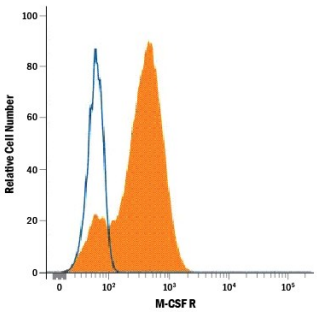
APPLICATIONS

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
Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of M-CSF R in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human M-CSF R APC-conjugated Monoclonal Antibody (Catalog # FAB329A, filled histogram) or isotype control antibody (Catalog # IC002A, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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BACKGROUND

M-CSF Receptor, the product of the *c-fms* proto-oncogene, is a member of the type III subfamily of receptor tyrosine kinases that also includes receptors for SCF and PDGF. These receptors each contain five immunoglobulin-like domains in their extracellular domain (ECD) and a split kinase domain in their intracellular region (1-4). M-CSF Receptor is expressed primarily on cells of the monocyte/macrophage lineage, dendritic cells, stem cells and in the developing placenta (1). Human M-CSF receptor cDNA encodes a 972 amino acid (aa) type I membrane protein with a 19 aa signal peptide, a 493 aa extracellular region containing the ligand-binding domain, a 25 aa transmembrane domain, and a 435 aa cytoplasmic domain. The human M-CSF R ECD shares 60%, 64%, 72%, 75%, 75%, and 76% aa identity with mouse, rat, bovine, canine, feline, and equine M-CSF R, respectively. Activators of protein kinase C induce TACE/ADAM17 cleavage of the M-CSF receptor, releasing the functional ligand-binding extracellular domain (5). M-CSF binding induces receptor homodimerization, resulting in transphosphorylation of specific cytoplasmic tyrosine residues and signal transduction (6). The intracellular domain of activated M-CSF R binds more than 150 proteins that affect cell proliferation, survival, differentiation and cytoskeletal reorganization. Among these, PI3 Kinase, P42/44 ERK, and c-Cbl are key transducers of M-CSF R signals (3, 4). M-CSF R engagement is continuously required for macrophage survival and regulates lineage decisions and maturation of monocytes, macrophages, osteoclasts and dendritic cells (3, 4). M-CSF R and integrin $\alpha_v\beta_3$ share signaling pathways during osteoclastogenesis, and deletion of either causes osteopetrosis (7, 8). In the brain, microglia expressing increased M-CSF R are concentrated with Alzheimer's Aβ peptide, but their role in pathogenesis is unclear (9, 10).

References:

1. deParseval, N. *et al.* (1993) Nucleic Acids Res. **21**:750.
2. Rothwell, V.M. and L.R. Rohrschneider (1987) Oncogene Res. **1**:311.
3. Chitu, V. and E.R. Stanley (2006) Curr. Opin. Immunol. **18**:39.
4. Ross, F.P. and S.L. Teitelbaum (2005) Immunol. Rev. **208**:88.
5. Rovida, E. *et al.* (2001) J. Immunol. **166**:1583.
6. Yeung, Y. *et al.* (1998) J. Biol. Chem. **273**:17128.
7. Dai, X. *et al.* (2002) Blood **99**:111.
8. Faccio, R. *et al.* (2003) J. Clin. Invest. **111**:749.
9. Li, M. *et al.* (2004) J. Neurochem. **91**:623.
10. Mitrasinovic, O.M. *et al.* (2005) J. Neurosci. **25**:4442.

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