



20150217ML

Anti-Human M-CSF R (#5V36)

Product Specifications

Host	Mouse
Reactivity against	Human
Clonality	Monoclonal Antibody
Clone	(#5V36)
Isotype	IgG1
Purification	Protein G chromatography
Antigen	recombinant human M-CSFR EC domain
Formulation	lyophilized
Reconstitution buffer	PBS (sterile)

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	101-M565
Size:	100 µg
Lot. No.:	According to product label

Preparation: This antibody was produced from a hybridoma (mouse myeloma fused with spleen cells from a mouse) immunized with human recombinant protein of M-CSF R extracellular domain.

Target Background

Synonyms (Target):	CSF1; MCSF; CSF-1
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M-CSF receptor, the product of the *c-fms* protooncogene, 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 immunoglobulinlike domains in their extracellular domain (ECD) and a split kinase domain in their intracellular region. M-CSF receptor is expressed primarily on cells of the monocyte/macrophage lineage, dendritic cells, stem cells and in the developing placenta. 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 ligandbinding domain, a 25 aa transmembrane domain, and a 435 aa cytoplasmic domain. The human MCSF 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 MCSF receptor, releasing the functional ligandbinding extracellular domain. M-CSF binding induces receptor homodimerization, resulting in transphosphorylation of specific cytoplasmic tyrosine residues and signal transduction. The intracellular domain of activated MCSF R binds more than 150 proteins that affect cell proliferation, survival, differentiation and cytoskeletal reorganization. Among these, PI3-Kinase, P42/44 ERK, and cCbl are key transducers of M-CSF-R signals. M-CSF R engagement is continuously required for macrophage survival and regulates lineage decisions and maturation of monocytes, macrophages, osteoclasts, and DC. M-CSF -R and integrin $\alpha\beta3$ share signaling pathways during osteoclastogenesis and deletion of either causes osteopetrosis. In the brain, microglia expressing increased M-CSF-R are concentrated with Alzheimers $\alpha\beta$ peptide, but their role in pathogenesis is unclear.

Reconstitution: Reconstitute the antibody with 200 µl sterile PBS and the final concentration is 500 µg/ml.

Stability: Lyophilized samples are stable for 2 years from date of receipt when stored at -70°C. Reconstituted antibody can be aliquoted and stored frozen at < -20 °C for at least for six months without detectable loss of activity.

Remarks: This antibody was selected for its ability to detect human M-CSF R.

**AVOID REPEATED FREEZE AND THAW CYCLES!**

Applications

The antibody can be used within the following applications:

WB

Recommended usage:

WB: Use at 1:500-1000

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!

Database References Target

Protein RefSeq:	NP_005202.2
Uniprot ID:	P07333
mRNA RefSeq:	NM_005211.3