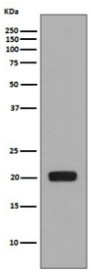
CSF1 Antibody Rabbit Monoclonal / Macrophage Colony Stimulating Factor 1 [clone CGI-3] (RQ5279)

Catalog No.	Formulation	Size
RQ5279	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Bulk quote request

Availability	1-2 weeks
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	CGI-3
Purity	Affinity purified
UniProt	P09603
Applications	Western Blot : 1:1000-1:1000
Limitations	This CSF1 antibody is available for research use only.



Western blot analysis of CSF1 antibody. Recombinant partial human Colony stimulating factor 1 protein was resolved by SDS-PAGE and probed with CSF1 antibody Rabbit Monoclonal (clone CGI-3). A single immunoreactive band is observed at approximately 20 kDa, consistent with the predicted molecular weight of the recombinant CSF1 fragment. The clean single band supports specific recognition of the target recombinant protein under reducing conditions.

Description

CSF1 antibody Rabbit Monoclonal recognizes Colony stimulating factor 1, a secreted hematopoietic growth factor encoded by the CSF1 gene and commonly referred to as macrophage colony stimulating factor and M-CSF. CSF1 antibody, also referred to as macrophage colony stimulating factor antibody and M-CSF antibody in the literature, detects a cytokine that plays a central role in the regulation of monocyte and macrophage lineage development. This secreted glycoprotein is synthesized as a precursor that undergoes proteolytic processing to generate soluble and membrane-

associated isoforms. CSF1 is primarily produced by fibroblasts, endothelial cells, osteoblasts, stromal cells, and certain epithelial populations, with expression often elevated in inflammatory tissues and within the tumor microenvironment.

CSF1 antibody is useful for studying the biology of macrophage differentiation, survival, and activation. Functionally, CSF1 binds to its receptor CSF1R, a receptor tyrosine kinase expressed on monocytes, macrophages, osteoclast precursors, and certain dendritic cell subsets. Ligand binding induces receptor dimerization and autophosphorylation, activating downstream signaling pathways including PI3K-AKT, MAPK, and JAK-STAT cascades that regulate proliferation, survival, and cytoskeletal remodeling. Through these pathways, Colony stimulating factor 1 orchestrates macrophage expansion, polarization, and tissue-specific specialization.

The CSF1 gene is located on chromosome 1p13 and encodes multiple isoforms generated by alternative splicing and differential proteolytic cleavage. These isoforms differ in their capacity to remain membrane bound or to be released as soluble factors, influencing local versus systemic effects. In bone, CSF1 is essential for osteoclast differentiation and skeletal remodeling. In peripheral tissues, it supports macrophage homeostasis in organs such as liver, lung, and spleen. During embryogenesis and postnatal development, CSF1 signaling contributes to the establishment of tissue resident macrophage populations.

Aberrant CSF1 expression has been implicated in chronic inflammatory disorders, autoimmune disease, and cancer. Elevated CSF1 levels are frequently observed in solid tumors including breast, ovarian, and pancreatic carcinomas, where it promotes recruitment and survival of tumor associated macrophages. These macrophages can enhance angiogenesis, matrix remodeling, and immune suppression, contributing to tumor progression. Consequently, the CSF1 CSF1R axis has emerged as a therapeutic target in oncology and inflammatory disease research.

Structurally, CSF1 belongs to the four helix bundle cytokine family and functions as a homodimer that engages CSF1R with high affinity. Post-translational modifications, including glycosylation, contribute to stability and secretion efficiency. Isoform-specific differences may influence receptor activation kinetics and spatial signaling patterns within tissues. CSF1 antibody Rabbit Monoclonal Clone CGI-3 is designed to recognize Colony stimulating factor 1 in research applications and supports investigation of myeloid lineage regulation, inflammatory signaling, and tumor microenvironment biology.

Application Notes

Optimal dilution of the CSF1 antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to human MCSF / CSF1 was used as the immunogen for the CSF1 antibody.

Storage

Store the CSF1 antibody at -20oC.