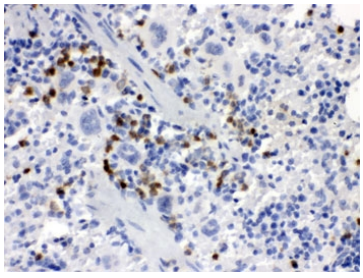
CSF-1 Antibody / Colony stimulating factor 1 (R31901)

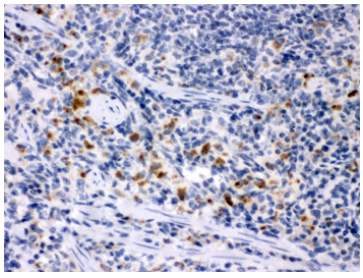
Catalog No.	Formulation	Size
R31901	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	P07141
Localization	Cytoplasmic, membrane
Applications	IHC (FFPE) : 0.5-1ug/ml ELISA : 0.1-0.5ug/ml (mouse protein tested); request BSA-free format for coating
Limitations	This Csf-1 antibody is available for research use only.



Immunohistochemistry of Csf-1 antibody in mouse spleen tissue. FFPE mouse spleen sections were subjected to heat-induced epitope retrieval by boiling in pH 6, 10 mM citrate buffer for 20 minutes followed by cooling prior to staining. Csf-1 antibody demonstrates HRP-DAB brown cytoplasmic staining in scattered splenic immune cells within the white pulp and perifollicular regions, while surrounding lymphoid populations show minimal background staining. The distribution is consistent with expression of Colony stimulating factor 1 in splenic stromal and myeloid-associated compartments.



Immunohistochemistry of Csf-1 antibody in rat spleen tissue. FFPE rat spleen sections were subjected to heat-induced epitope retrieval by boiling in pH 6, 10 mM citrate buffer for 20 minutes followed by cooling prior to staining. Csf-1 antibody shows HRP-DAB brown cytoplasmic staining in scattered splenic immune cells within the white pulp and along trabecular regions, while the majority of surrounding lymphocytes display minimal background staining. The staining pattern is consistent with expression of Colony stimulating factor 1 in splenic stromal and myeloid cell populations.

Description

CSF-1 antibody recognizes Colony stimulating factor 1, a secreted homodimeric cytokine widely known as Macrophage colony stimulating factor. CSF-1 antibody, also referred to as Colony stimulating factor 1 antibody and M-CSF antibody, detects a central growth factor that regulates macrophage survival, differentiation, and polarization. Unlike gene-centric analyses, this antibody is particularly valuable for functional studies of cytokine signaling and immune cell biology.

CSF-1 exerts its biological effects through binding to CSF1R, a receptor tyrosine kinase expressed on monocytes, macrophages, dendritic cell subsets, and osteoclast precursors. Ligand binding induces receptor dimerization and activation of intracellular signaling cascades including PI3K-AKT, MAPK, and JAK-STAT pathways. These pathways control macrophage proliferation, metabolic adaptation, cytoskeletal remodeling, and survival. As a result, CSF-1 is a dominant driver of tissue macrophage expansion.

In bone physiology, CSF-1 is essential for osteoclast differentiation and skeletal homeostasis. In peripheral tissues, it supports macrophage turnover and immune surveillance. Elevated CSF-1 protein levels are observed in inflamed tissues and in many solid tumors, where it promotes recruitment of tumor associated macrophages that can enhance angiogenesis and suppress adaptive immune responses.

Therapeutic strategies targeting the CSF-1 CSF1R axis are under investigation in oncology and chronic inflammatory disease models. Measurement of CSF-1 protein expression is therefore highly relevant in translational immunology, macrophage polarization research, and tumor microenvironment studies.

A CSF-1 antibody is suitable for research applications focused on cytokine signaling, macrophage activation states, osteoclast biology, and immune regulatory pathways.

Application Notes

Optimal dilution of the Csf-1 antibody should be determined by the researcher.

Immunogen

Amino acids 33-262 of mouse Colony stimulating factor 1 were used as the immunogen for the Csf-1 antibody.

Storage

After reconstitution, the Csf-1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.