

#3152 Store at -20°C

CSF-1R/M-CSF-R Antibody


Cell Signaling
TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M	Endogenous	52 cytoplasmic domain. 140 precursor. 175 M-CSF Receptor.	Rabbit	#P07333	1436

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

CSF-1R/M-CSF-R Antibody detects endogenous levels of CSF-1R/M-CSF-R.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to carboxy-terminal residues of human CSF-1R/M-CSF-R. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Macrophage-colony stimulating factor (M-CSF, CSF-1) receptor is an integral membrane tyrosine kinase encoded by the *c-fms* proto-oncogene. M-CSF receptor is expressed in monocytes (macrophages and their progenitors) and drives growth and development of this blood cell lineage (1-3). Binding of M-CSF to its receptor induces receptor dimerization, activation, and autophosphorylation of cytoplasmic tyrosine residues used as docking sites for SH2-containing signaling proteins (4). There are at least five major tyrosine autophosphorylation sites. Tyr723 (Tyr721 in mouse) is located in the kinase insert (KI) region. Phosphorylated Tyr723 binds the p85 subunit of PI3 kinase as well as PLCγ2 (5). Phosphorylation of Tyr809 provides a docking site for Shc (5). Overactivation of this receptor can lead to a malignant phenotype in various cell systems (6). The activated M-CSF receptor has been shown to be a predictor of poor outcome in advanced epithelial ovarian carcinoma (7) and breast cancer (8).

After initial dimerization and autophosphorylation, the CSF-1 receptor undergoes regulated intramembrane proteolysis (RIP) that involves proteolytic processing of this membrane protein and results in release of extracellular domain, intramembrane cleavage and release of the cytoplasmic domain into the cytosol (9). The activated intracellular domain then moves to the nucleus and regulates transcription of specific genes (10). It has been shown that the processing and down modulation of CSF-1 receptor is a continuous process and its rate increases substantially in response to a variety of stimuli including PMA, LPS, tumor necrosis factor, IL-2, IL-4 and its physiological ligand CSF-1 (9).

Background References

1. Stanley, E.R. et al. (1978) *Nature* 274, 168-70.
2. Byrne, P.V. et al. (1981) *J Cell Biol* 91, 848-53.
3. Bourette, R.P. and Rohrschneider, L.R. (2000) *Growth Factors* 17, 155-66.
4. Novak, U. et al. (1996) *Oncogene* 13, 2607-13.
5. Bourette, R.P. et al. (1997) *EMBO J* 16, 5880-93.
6. Morley, G.M. et al. (1999) *Oncogene* 18, 3076-84.
7. Toy, E.P. et al. (2001) *Gynecol Oncol* 80, 194-200.
8. Maher, M.G. et al. (1998) *Clin Cancer Res* 4, 1851-6.
9. Wilhelmsen, K. and van der Geer, P. (2004) *Mol Cell Biol* 24, 454-64.
10. Urban, S. and Freeman, M. (2002) *Curr Opin Genet Dev* 12, 512-8.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key**Cross-Reactivity Key****Trademarks and Patents****Limited Uses****WB:** Western Blotting

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.