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#3406

## Phospho-CSF-1R/M-CSF-R (Tyr923) Antibody

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

<b>Applications:</b> W	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 175	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P07333	<b>Entrez-Gene Id:</b> 1436
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### 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

Phospho-CSF-1R/M-CSF-R (Tyr923) Antibody detects endogenous levels of CSF-1R/M-CSF-R only when phosphorylated at Tyr923. The antibody may cross-react with other activated tyrosine kinases including PDGF and FGF receptors.

### Species predicted to react based on 100% sequence homology

Mouse

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues around Tyr923 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).

The equivalent site (Tyr921) of Tyr923 in human M-CSF receptor was demonstrated to be phosphorylated in mouse macrophages in a CSF-1 stimulation dependent manner (10). Phosphorylation of Tyr923 of M-CSF receptor may provide a docking site for Grb2 binding (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. Mancini, A. et al. (1997) *Oncogene* 15, 1565-72.
10. Yu, W. et al. (2008) *J Leukoc Biol* 84, 852-63.

### 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

**W:** Western Blotting

### Cross-Reactivity Key

**H:** Human

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