

Store at -20C
#3083

Phospho-CSF-1R/M-CSF-R (Tyr546) Antibody



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

Applications: WB	Reactivity: H M	Sensitivity: Transfected Only	MW (kDa): 175	Source: Rabbit	UniProt ID: #P07333	Entrez-Gene Id: 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 (Tyr546) Antibody detects transfected levels of CSF-1R/M-CSF-R only when phosphorylated at Tyr546. This antibody may cross-react with other tyrosine-phosphorylated protein tyrosine kinases.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr546 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).

Tyr546 is a major autophosphorylation site in the juxtamembrane domain of the M-CSF receptor. Phosphorylation of Tyr546 plays an important role in the activation of M-CSF (9) and may provide a binding site for downstream signaling components (10).

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. Schubert, C. et al. (2007) *J. Biol. Chem.* 282, 4094-4101.
10. Joos, H. et al. (1996) *J. Biol. Chem.* 271, 24476-24481.

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

WB: Western Blotting

Cross-Reactivity Key

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

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