

Product Information

Anti-Hepatocyte Growth Factor Receptor

produced in goat, affinity isolated antibody

Catalog Number **H9911**

Product Description

Anti-Hepatocyte Growth Factor Receptor is produced in goat using recombinant mouse hepatocyte growth factor receptor (HGF R) extracellular domain, expressed in *Sf 21* cells, as immunogen. The antibody is purified using mouse HGF R affinity chromatography.

Anti-Hepatocyte Growth Factor Receptor will neutralize receptor-ligand interaction. The antibody may also be used in ELISA and immunoblotting. By ELISA, the antibody shows ~15% cross-reactivity with recombinant human HGF R and no cross-reactivity with recombinant human macrophage stimulating protein receptor (MSP R).

Hepatocyte growth factor receptor (HGF R), a product of the proto-oncogene c-Met, is a heterodimeric transmembrane glycoprotein that is a receptor-type tyrosine kinase.² The c-Met heterodimer is composed of an α chain that is disulfide-linked to a β chain. Each α and β subunit heterodimer contains 1152 amino acid residues with a calculated molecular mass of ~129 kDa. The α chain is exposed to the cell surface and the β chain spans the plasma membrane. c-Met is synthesized as a single-chain precursor which undergoes cotranslational glycosylation and proteolytic cleavage producing the heterodimeric mature form. Human and mouse HGF receptors share 89% amino acid identity. HGF is the ligand for the HGF receptor. Human HGF can bind to the mouse HGF receptor.

Hepatocyte growth factor (HGF), also known as scatter factor (SF), is a multifunctional cytokine that promotes mitogenesis, migration, invasion, and morphogenesis.³ HGF stimulates hepatocytes and other epithelial and endothelial cells by various biological actions. HGF binding involves the β chain of the HGF receptor, but α chain participation cannot be ruled out. HGF binding to c-Met triggers dimerization and subsequent tyrosine autophosphorylation of the receptor β chain.

Autophosphorylation at two tyrosines upregulates kinase activity while phosphorylation at two other tyrosines generates SH2 docking sites for adapter proteins such as Shc, Grb2, Crk/CRKL, and Gab1.

Receptor activation has been correlated to the activation of the Ras pathway, which culminates in the activation and consequent nuclear translocation of MAP kinase. c-Met can also be negatively modulated by phosphorylation of Ser⁹⁸⁵ by protein kinase C. Other ligand-receptor activities involve binding that leads to enhanced integrin-mediated B cell and lymphoma cell adhesion.^{4,5} Normal HGF-Met signaling is needed for embryonic development and abnormal signaling and has been implicated in tumorigenesis.⁶

Reagent

Supplied as 100 μ g of antiserum lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS), pH 7.4, with 5% trehalose.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of 0.2 μ m filtered phosphate buffered saline (PBS) to produce a 0.1 mg/ml stock solution of antibody.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Prior to reconstitution, store at -20°C . Reconstituted product may be stored at $2-8^{\circ}\text{C}$ for at least one month. For prolonged storage, freeze in working aliquots at -20°C . Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

Anti-Hepatocyte Growth Factor Receptor has the ability to block receptor-ligand interaction. 0.3-1.0 μ g/ml of the antibody will block 50% of the binding of recombinant human HGF (5 ng/ml) to immobilized recombinant mouse HGF R/Fc chimera (100 μ L of a 1 μ g/ml solution coated in each well) in an ELISA.

Immunoblotting: a working antibody concentration of 0.1-0.2 µg/ml is recommended. The detection limit for recombinant mouse HGF R is ~25 ng/lane under non-reducing and reducing conditions.

Immunohistochemistry: a working antibody concentration of 5-15 µg/ml is recommended using cells and tissues.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining the optimal working dilutions by titration.

Endotoxin level is <0.01 EU per 1 µg of antibody as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Park, M., et al., *Proc. Natl. Acad. Sci.*, **84**, 6379 (1987).
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3. Jiang, W.G., and Hiscox, S., *Histol. Histopathol.*, **2**, 537 (1997).
4. Van der Voort, R., et al., *J. Exp. Med.*, **185**, 2121 (1997).
5. Weimar, I.S., et al., *Blood*, **89**, 990 (1997).
6. Furge, *Oncogene*, **19**, 5582 (2000).

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