

Product Information

HGF RECEPTOR (C-Met)/FC CHIMERA

Human, Recombinant

Expressed in mouse NSO cells

Product Number **H 0536**

Product Description

Recombinant Human HGF Receptor (c-Met)/Fc Chimera is produced from the extracellular domain of human HGF receptor protein fused to the C-terminal 6X histidine-tagged Fc region of human IgG1 by a polypeptide linker.¹ It is a disulfide-linked tetramer containing two proteolytically cleaved α and β subunits. Each α and β subunit heterodimer contain 1152 amino acid residues with a calculated molecular mass of approximately 129 kDa. Human and mouse HGF receptors share 89% amino acid identity and human HGF can bind to the mouse receptor.

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. 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.

Hepatocyte growth factor (HGF), also known as scatter factor, SF, is a multifunctional cytokine that promotes mitogenesis, migration, invasion, and morphogenesis.³ It is the ligand for the HGF receptor. HGF stimulates hepatocytes and other epithelial and endothelial cells by various biological actions. This 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 Ser 985 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 has been implicated in tumorigenesis.⁶

Reagent

Recombinant Human HGF Receptor (c-Met)/Fc Chimera is supplied as approximately 100 μ g of protein lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS) containing 5 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 50 μ g/ml.

Storage/Stability

Store at -20°C . Upon reconstitution, store at 2°C to 8°C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant Human HGF Receptor (c-Met)/Fc Chimera is measured by its ability to bind human HGF. Immobilized recombinant human HGF receptor/Fc at 1 μ g/ml (100 μ l/well) binds recombinant human HGF (0.1 to 5 ng/ml) in an ELISA assay.

Purity: > 95 % as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/ μ g protein as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Park, M., et al., Proc. Natl. Acad. Sci., **84**, 6379-6383 (1987).
2. Cornoglio, P.M., and Graziani, A., *Guidebook to Cytokines and Their Receptors*, Nicola, N.A. (Ed.), pp. 185-187 (Oxford University Press, New York, 1994)
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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