3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-Hepatocyte Growth Factor Receptor (c-Met)
produced in goat, affinity isolated antibody

Catalog Number **H9786**

Product Description

Anti-Hepatocyte Growth Factor Receptor (c-Met) is produced in goat using purified recombinant human hepatocyte growth factor receptor (HGF R) extracellular domain expressed in mouse NS0 cells as immunogen. The antibody is purified using human HGF R affinity chromatography.

Anti-Hepatocyte Growth Factor Receptor (c-Met) will neutralize receptor-ligand interaction. The antibody may also be used in functional ELISA, immunoblotting, immunohistochemistry, and flow cytometry.

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 1,152 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 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 and has been implicated in tumorigenesis.[6]

Reagent

Lyophilized from 0.2 μm-filtered solution in phosphate buffered saline containing carbohydrates.

Precautions and Disclaimer

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

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 μm-filtered PBS to produce a 0.1 mg/mL stock solution of antibody.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2–8 °C for up to one month. For prolonged storage, freeze in working aliquots. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

Neutralization: the antibody has the ability to neutralize receptor-ligand interaction. The antibody (0.5–2 μg/mL) will block 50% of the binding of recombinant human HGF (5 ng/mL) to immobilized recombinant human HGF R/Fc Chimera (100 μL of a 1 μg/mL solution coated in each well) in an ELISA. 10 μg/mL of the antibody will block 90% of binding.

Immunoblotting: a working antibody concentration of 0.1–0.2 μg/mL is recommended. The detection limit for recombinant human HGF R is ~5 ng/lane under non-reducing and reducing conditions. Both the α and β chains of HGF R are detected by this antibody under reducing conditions.

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

Flow cytometry: a working antibody concentration of 3–10 μg/mL/10^6 cells is recommended for indirect immunofluorescence staining of cells.

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 <0.1 EU (endotoxin units) per 1 μg of the antibody as determined by the LAL (Limulus amebocyte lysate) method.

References

1. Park, M. et al., *Proc. Natl. Acad. Sci*., **84**, 6379 (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).

ADM,PHC,TMS,MAM 06/16-1