

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human HGF Activator in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 5% cross-reactivity with recombinant mouse HGF Activator is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human HGF Activator Gln36-Ser655 Accession # Q04756.1
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human HGF Activator (Catalog # 1514-SE)
<b>Immunohistochemistry</b>	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human liver
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human HGF Activator (Catalog # 1514-SE), see our available <a href="#">Western blot detection antibodies</a>

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Hepatocyte Growth Factor Activator (HGFA) is a serine endopeptidase that cleaves at the peptide bond between Arg494 and Val495 of single-chain human HGF precursor, generating the active heterodimer (1). HGFA is produced and secreted by the liver and normally circulates in the blood as an inactive zymogen (2, 3). The zymogen has a weak affinity for heparin but acquires a strong affinity for heparin upon activation that is linked to blood coagulation. This property may ensure the local action of this enzyme at the site of tissue injury (3). Human HGFA precursor (655 amino acid residues) contains several predicted domains including a signal peptide (residues 1-30), a propeptide (residues 31-372), and a mature and active form (residues 373-655) that is further processed into a short chain (residues 373-407) and a long chain (residues 408-655). The short chain and the long chain (catalytic domain) may form a disulfide bond linked dimer. HGFA can be activated by thrombin (R&D Systems, Catalog # 1473-SE) or thermolysin (R&D Systems, Catalog # 3097-ZN) (4). The active protease can be inhibited by HGFA inhibitors (HAIs). Two HAIs, HAI-1 and HAI-2, are known in mouse and human. HAI-1 is not only an inhibitor, but also a specific acceptor of active HGFA, acting as a reservoir of this enzyme on the cell surface (5).

## References:

1. Kitamura, N. (2004) in *Handbook of Proteolytic Enzymes* (Barrett, A.J. et al. Eds.) p. 1712, Academic Press, San Diego.
2. Miyazawa, K. et al. (1993) *J. Biol. Chem.* **268**:10024.
3. Miyazawa, K. et al. (1996) *J. Biol. Chem.* **271**:3615.
4. Shimomura, T. et al. (1993) *J. Biol. Chem.* **268**:22927.
5. Kataoka, H. et al. (2000) *J. Biol. Chem.* **275**:40453.