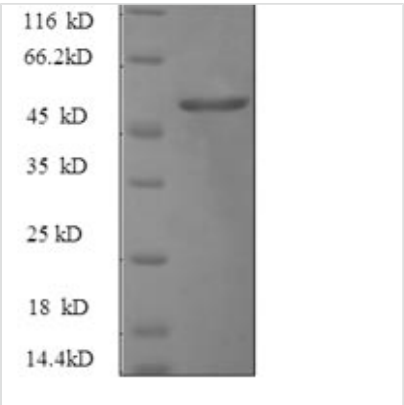
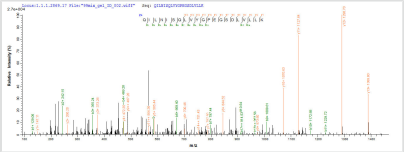
Recombinant Rat Hepatocyte growth factor (Hgf), partial

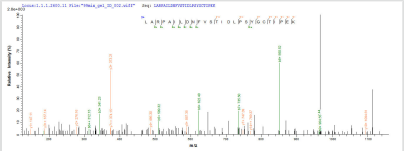
Product Code	CSB-EP010327RA
Relevance	Potent mitogen for mature parenchymal hepatocyte cells, ses to be a hepatotrophic factor, and acts as a growth factor for a broad spectrum of tissues and cell types. Activating ligand for the receptor tyrosine kinase MET by binding to it and promoting its dimerization .
Abbreviation	Recombinant Rat Hgf protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P17945
Alias	Hepatopoietin-AScatter factor ;SF
Product Type	Recombinant Protein
Immunogen Species	Rattus norvegicus (Rat)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	TIVNLDHPVISCAKTKQLRVVNGIPTQTTVGWMVSLKYRNKHICGGSLIKESWV LTARQCFPARNKDLKDYEAWLGIHDVHERGEEKRKQILNISQLVYGPEGSDLV LLKLARPAILDNFVSTIDLPSYGCTIPEKTTCSIYGWGYTGLINADGLLRVAHLYI MGNEKCSQHHQGKVTLNESELCAGAEKIGSGPCEGDYGGPLICEQHKMRMV LGVIVPGRGCAIPNRPGIFVRVAYYAKWIHKVILTYKL
Research Area	Others
Source	E.coli
Target Names	Hgf
Expression Region	477-728aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	55.0kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-RP084844R could indicate that this peptide derived from E.coli-expressed Rattus norvegicus (Rat) Hgf.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-RP084844R could indicate that this peptide derived from E.coli-expressed Rattus norvegicus (Rat) Hgf.

Description

Recombinant rat hepatocyte growth factor (HGF) is a high-purity protein with purity levels greater than 90%, as verified by SDS-PAGE. This protein, derived from rat species and expressed in E. coli, includes the partial expression region 477-728aa. It features an N-terminal GST-tag for ease of purification and detection. It is available in both liquid and lyophilized powder forms.

Rat HGF is a crucial cytokine involved in liver regeneration and hepatocyte proliferation. HGF is produced by non-parenchymal cells in the liver, such as Kupffer cells and hepatic stellate cells, and its expression is significantly upregulated during liver regeneration, particularly following partial hepatectomy [1]. When stimulated by c-Met, HGF activates multiple downstream signaling cascades, including the PI3K/Akt and MAPK pathways, essential for hepatocyte proliferation and survival [2][3].

In vitro studies have demonstrated that HGF promotes hepatocyte proliferation and enhances their survival by exerting anti-apoptotic effects [4]. HGF also influences the differentiation of stem cells into hepatocyte lineages, indicating its pivotal role in liver development and repair processes [5].

References:
[1] M. Li, X. Zhou, J. Mei, X. Geng, Y. Zhou, W. Zhang, et al., Study on the activity of the signaling pathways regulating hepatocytes from g0 phase into g1 phase during rat liver regeneration, Cellular & Molecular Biology Letters, vol. 19, no. 2, 2014. https://doi.org/10.2478/s11658-014-0188-2
[2] A. Coutant, C. Rescan, D. Gilot, P. Loyer, C. Guguen?Guillouzo, & G. Baffet, Pi3k-frap/mtor pathway is critical for hepatocyte proliferation whereas mek/erk

supports both proliferation and survival, Hepatology, vol. 36, no. 5, p. 1079-1088, 2002. https://doi.org/10.1053/jhep.2002.36160
[3] H. Moteki, M. Kimura, & M. Ogihara, Activation of extracellular-signal regulated kinase by epidermal growth factor is potentiated by camp-elevating agents in primary cultures of adult rat hepatocytes, Biological and Pharmaceutical Bulletin, vol. 34, no. 10, p. 1542-1552, 2011. https://doi.org/10.1248/bpb.34.1542
[4] Z. Li, S. Mizuno, & T. Nakamura, Antinecrotic and antiapoptotic effects of hepatocyte growth factor on cholestatic hepatitis in a mouse model of bile-obstructive diseases, Ajp Gastrointestinal and Liver Physiology, vol. 292, no. 2, p. G639-G646, 2007. https://doi.org/10.1152/ajpgi.00292.2006
[5] S. Oh, M. Miyazaki, H. Kouchi, Y. Inoue, M. Sakaguchi, T. Tsujiet al., Hepatocyte growth factor induces differentiation of adult rat bone marrow cells into a hepatocyte lineage in vitro, Biochemical and Biophysical Research Communications, vol. 279, no. 2, p. 500-504, 2000. https://doi.org/10.1006/bbrc.2000.3985

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.