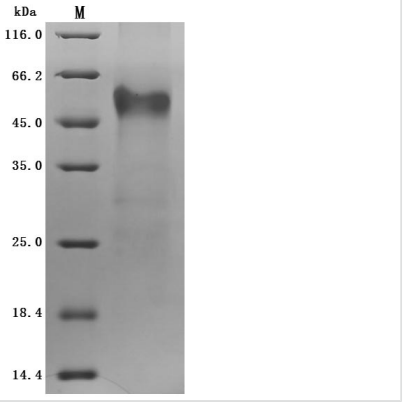
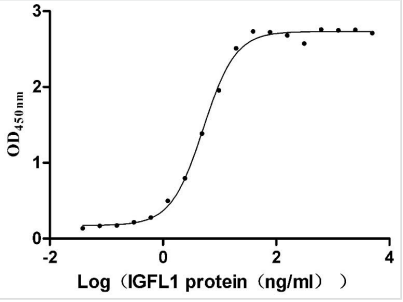
Recombinant Human IGF-like family receptor 1 (IGFLR1), partial (Active)

Product Code	CSB-MP862025HUd9
Abbreviation	Recombinant Human IGFLR1 protein, partial (Active)
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.	Q9H665
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, 6% Trehalose, pH 7.4
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human IGFLR1 at 2 μg/mL can bind Human IGFL1 (CSB-MP764932HUh8), the EC_{50} is 4.640-5.722 ng/mL.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	SQYCGRLEYWNPDNKCCSSCLQRFGPPPCPDYEFRENCGLNDHGDFVTPPF RKCSSGQCNPDGAELCSPCGGGAVTPTPAAGGGRTPWRCRERPVPAKGHC PLTPGNPGAPSSQERSSPASSIAWRTPEPVPQQAWPNFLP
Source	Mammalian cell
Target Names	IGFLR1
Expression Region	23-163aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal hFc1-tagged
Mol. Weight	44.1 kDa
Protein Length	Partial
Image	



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



Activity
Measured by its binding ability in a functional ELISA. Immobilized Human IGFLR1 at 2 μg/ml can bind Human IGFL1 (CSB-MP764932HUh8), the EC_{50} is 4.640-5.722 ng/mL.

Description

The recombinant human IGFLR1 protein production follows a workflow of gene cloning, plasmid construction, protein expression, purification, and analysis. It is expressed in mammalian cells. Its expression region corresponds to the 23-163aa of the human IGFLR1. It is fused with a hFc-tag at the C-terminus. The resulting recombinant IGFLR1 protein is purified using affinity chromatography. SDS-PAGE analysis confirms the IGFLR1 protein purity exceeds 95%, and the LAL method detects its endotoxin levels of <1.0 EU/μg. Functional ELISA shows its specific binding with the human IGFL1 (CSB-MP764932HUh8), with an EC_{50} of 4.640-5.722 ng/mL.

IGFLR1 is a transmembrane protein primarily expressed on T cells [1]. It bears structural similarities to the TNFR family members, and human and mouse IGFLR1 share 61% amino acid sequence identity [1].

IGFLR1 is most abundantly expressed on T cells in mice, and in both human and mouse skin models, its expression is induced under inflammatory conditions, suggesting it may act as a regulatory element in T cell response in the skin [2]. Several studies have found that IGFLR1 is associated with immune regulation and infiltration in various cancers, including clear cell renal cell carcinoma, colorectal cancer, and non-small cell lung cancer [3][4][5][6]. IGFLR1 expression is elevated on the surface of CD8+ T cells in colorectal cancer, where it may contribute to T cell exhaustion [3]. Additionally, a specific cluster of TH1-like T cells co-expressing CXCL13 and BHLHE40 and exhibiting high levels of IGFLR1 was linked to microsatellite-instable colorectal tumors [4][5][6].

References:
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[4] N. Wang, R. Wang, X. Li, Z. Song, L. Xia, J. Wang, et al. Tumor microenvironment profiles reveal distinct therapy-oriented proteogenomic characteristics in colorectal cancer, Frontiers in Bioengineering and Biotechnology, vol. 9, 2021. https://doi.org/10.3389/fbioe.2021.757378
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[6] Y. Li, J. Jin, & F. Bai. Cancer biology deciphered by single-cell transcriptomic sequencing, Protein & Cell, vol. 13, no. 3, p. 167-179, 2021. https://doi.org/10.1007/s13238-021-00868-1

Endotoxin	Less than 1.0 EU/ug as determined by LAL method.
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.