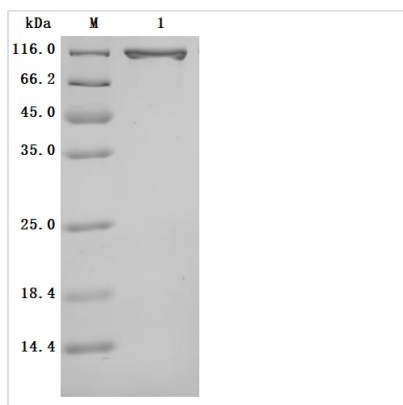


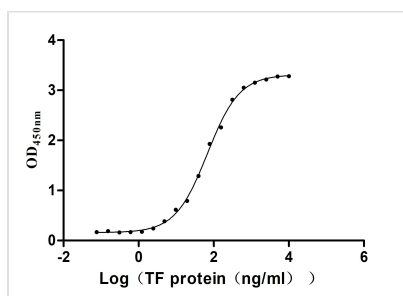


Recombinant Human Serotransferrin(TF) (Active)

Product Code	CSB-MP023412HU
Abbreviation	Recombinant Human TF protein (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.	P02787
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 TFRC(CSB-MP3648HU) at 2 µg/mL can bind Human TF. The EC50 is 58.72-77.84 ng/mL.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	VPDKTVRWCAVSEHEATKQCQSFDRDHMKSVIPSDGPSVACVKKASYLDCIRAI ANEADAVTLDAGLVYDAYLAPNNLKPVVAEFYGSKEDPQTFYYAVAVVKKDSG FQMNQLRGKKSCHTGLGRSAGWNIPIGLLYCDLPEPRKPLEKAVANFFSGSC APCADGTDFFPQLCQLCPGCGCSTLNQYFGYSGAFKCLKDAGDVAFVKHSTI FENLANKADRDQYELLCLDNTRKPVDEYKDCHLAQVPSHTVVARSMGGKEDL IWELLNQAQEHFGKDKSKEFQLFSSPHGKDLLFKDSAHGFLKVPPRMDAKMY LGYEYVTAIRNLREGTCPEAPTDECKPVKWCALSHHERLKCDEWSVNSVGKIE CVSAETTEDCIAKIMNGEADAMSLDGGFVYIAGKCGLVPVLAENYNKSDNCED TPEAGYFAIAVVKKSASDLTWDNLKGKKSCHTAVGRTAGWNIPMGLLYNKINH CRFDEFFSEGCAPGSKKDSSLCKLCMGSGNLNCEPNNKEGYGYTGAFRCLV EKGDVAFVKHQTPQNTGGKNPDPWAKNLNEKDYEELLCLDGTRKPVVEEYAN CHLARAPNHAVVTRKDKEACVHKILRQQHFLGSGNVTD CSGNFCLFRSETKD LLFRDDTVCLAKLHDRNTYEKYLGEYVKA VGNLRKCSTSSLLEACTFRRP
Source	Mammalian cell
Target Names	TF
Expression Region	20-698aa
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	104.1kDa
Protein Length	Full Length of Mature Protein
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 TFRC(CSB-MP3648HU) at 2μg/mL can bind Human TF?the EC₅₀ is 58.72-77.84 ng/mL.

Description

The production pipeline for the recombinant human serotransferrin (TF) includes gene cloning, plasmid construction, protein expression, and quality control. It is expressed in the mammalian cells. Its expression region corresponds to the 20-698aa of the human serotransferrin. It also carries a C-terminal hFc-tag. It is subjected to affinity chromatography purification. Its purity is over 95% as measured by SDS-PAGE, and its endotoxin levels are less than 1.0 EU/μg as accessed by the LAL method. This recombinant serotransferrin is validated to be biologically active. In a functional ELISA, the human TFRC (CSB-MP3648HU) can bind to this serotransferrin, with an EC₅₀ of 58.72-77.84 ng/mL.

Human serotransferrin, also known as serum transferrin, is a glycoprotein primarily synthesized in the liver, playing a crucial role in iron transport and homeostasis. Serotransferrin is responsible for binding iron ions and facilitating their delivery to various tissues through receptor-mediated endocytosis, which is essential for cellular functions and overall iron homeostasis in the body [1][2].

The structure of human serotransferrin is characterized by its ability to bind two iron ions per molecule, which is vital for its function in iron transport. Serotransferrin is composed of two homologous lobes, each capable of binding an iron ion [2][3]. The glycosylation patterns of serotransferrin are also significant, as they can influence its biological activity and interactions with other proteins. For instance, variations in glycan composition have been linked to different pathological conditions, including liver diseases and cancers [4].

Elevated levels of serotransferrin have been associated with certain cancers, such as breast cancer and hepatocellular carcinoma [5][6]. Additionally, serotransferrin is involved in the acute-phase response, where its concentration can increase in response to inflammation or tissue injury, further emphasizing its



importance in disease states [7]. Research has also shown that serotransferrin levels are altered in various conditions, including glaucoma and chronic kidney disease, suggesting serotransferrin's role in the pathogenesis of these diseases [7][8]. Furthermore, its role in iron metabolism makes it a critical factor in understanding diseases related to iron deficiency or overload, such as hemochromatosis and anemia [1].

References:

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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.