Data Sheet (Cat.No.TMPY-07047)

TargetMol

Transferrin Protein, Human, Recombinant

General Information

Synonyms: PRO1557;HEL-S-71p;TFQTL1;PRO2086;PRO1400

Protein Construction: A DNA sequence encoding the Human TF (NP_001054.2) (Val20-Pro698) was expressed.

Species: Human

Expression Host: HEK293 Cells

Accession: NP_001054.2

Molecular Weight: 75.19 kDa (predicted); 79.4 kDa (reducing contition)

QC Testing

Biological Activity: 1. Immobilized Transferrin Protein, Human, Recombinant (Cat#TMPY-07047) at 2 μg/mL (100 μL/well) can bind Transferrin Receptor/TFRC Protein, Human, Recombinant (His), Biotinylated (Cat#TMPY-05617), the EC50 is 30-90 ng/mL.
2. Transferrin Receptor/TFRC Protein, Human, Recombinant (His) (Cat#TMPY-01873) captured on NTA chip can bind Transferrin Protein, Human, Recombinant (Cat#TMPY-07047) with an affinity constant of 7.600 nM as determined in an SPR assay (Biacore 8K) (Routinely tested).
3. Biotinylated Recombinant Human TFR1/CD71 Protein, AVI & His Tag captured on NTA chip can bind Transferrin Protein, Human, Recombinant (Cat#TMPY-07047) with an affinity constant of 8.210 nM as determined in an SPR assay (Biacore 8K) (Routinely tested).

Purity: ≥ 95% as determined by SDS-PAGE. ≥ 95% as determined by SEC-HPLC.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Lyophilized from sterile PBS, pH 7.4. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:

Please refer to the lot-specific COA.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Transferrin is a glycoprotein with an approximate molecular weight of 76.5 kDa. This glycoprotein is thought to have been created as a result of an ancient gene duplication event that led to generation of homologous C and N-terminal domains each of which binds one ion of ferric iron. The function of Transferrin is to transport iron from the intestine, reticuloendothelial system, and liver parenchymal cells to all proliferating cells in the body. This protein may also have a physiologic role as granulocyte / pollen-binding protein (GPBP) involved in the removal of certain organic matter and allergens from serum. Transferrins are iron binding transport proteins that bind Fe3+ion in association with the binding of an anion, usually bicarbonate. This transferrin binds only one Fe3+ion per protein molecule. Transports iron ions from the hemolymph into the eggs during the vitellogenic stage. Transferrins are iron binding transport proteins which can bind two Fe(3+) ions in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation. When a transferrin loaded with iron encounters with a transferring receptor on cell surface, transferring binds to it and, as a consequence, is transported into the cell in a visicle by receptor-mediated endocytosis. The PH is reduced by hydrogen iron pumps. The lower pH causes transferrin to release its iron ions. The receptor is then transported through the endocytic cycle back to the cell surface, ready for another round of iron uptake. Each transferrin molecule has the ability to carry two iron ions in the ferric form.

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