



# Recombinant Human TFRC (N-6His)

<b>Catalog #</b>	EPT066
<b>Expression Host</b>	Human Cells
<b>DESCRIPTION</b>	Recombinant Human Transferrin Receptor Protein 1 is produced by our Mammalian expression system and the target gene encoding Leu101-Phe760 is expressed with a 6His tag at the N-terminus.
<b>Accession</b>	P02786
<b>Synonyms</b>	Transferrin receptor protein 1; TR; TfR; Trfr; T9; p90
<b>Mol Mass</b>	74.9 KDa
<b>AP Mol Mass</b>	80-90 KDa, reducing conditions
<b>Purity</b>	Greater than 95% as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	Less than 0.1 ng/μg (1 EU/μg) as determined by LAL test.
<b>FORMULATION</b>	Lyophilized from a 0.2 μm filtered solution of 20mM PB, 150mM NaCl, 5% Trehalose, 5% Mannitol, 0.01% Tween80, pH7.4.
<b>RECONSTITUTION</b>	Always centrifuge tubes before opening. Do not mix by





vortex or pipetting.

It is not recommended to reconstitute to a concentration less than 100µg/ml.

Dissolve the lyophilized protein in distilled water.

Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

## SHIPPING

The product is shipped at ambient temperature.

Upon receipt, store it immediately at the temperature listed below.

## STORAGE

Lyophilized protein should be stored at  $< -20^{\circ}\text{C}$ , though stable at room temperature for 3 weeks.

Reconstituted protein solution can be stored at  $4-7^{\circ}\text{C}$  for 2-7 days.

Aliquots of reconstituted samples are stable at  $< -20^{\circ}\text{C}$  for 3 months.

## BACKGROUND

Transferrin receptor protein 1 (TFRC) belongs to the peptidase M28 family that is synthesized as a 172 amino acid (aa). TFRC regulated by cellular iron levels through binding of the iron regulatory proteins, IRP1 and IRP2, to iron-responsive elements in the 3'-UTR. It binds one transferrin or HFE molecule per subunit and binds the HLA class II histocompatibility antigen, DR1.





It Interacts with SH3BP3 and STEAP3, facilitates TFRC endocytosis in erythroid precursor cells. Cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied transferrin receptor into specialized endosomes. Endosomal acidification leads to iron release. The apotransferrin-receptor complex is then recycled to the cell surface with a return to neutral pH and the concomitant loss of affinity of apotransferrin for its receptor. Transferrin receptor is necessary for development of erythrocytes and the nervous system. A second ligand, the hereditary hemochromatosis protein HFE, competes for binding with transferrin for an overlapping C-terminal binding site. It positively regulates T and B cell proliferation through iron uptake.

## **SDS-PAGE**

