

## Recombinant Human TFRC (N-6His)

Catalog #	EPT066
Expression Host	Human Cells
DESCRIPTION	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.
Accession	P02786
Synonyms	Transferrin receptor protein 1; TR; TfR; Trfr; T9; p90
Mol Mass	74.9 KDa
AP Mol Mass	80-90 KDa, reducing conditions
Purity	Greater than 95% as determined by reducing
	SDS-PAGE.
Endotoxin	Less than 0.1 ng/ $\mu$ g (1 EU/ $\mu$ g) as determined by LAL
	test.
FORMULATION	Lyophilized from a 0.2 $\mu$ m filtered solution of 20mM
	PB, 150mM NaCl, 5% Trehalose, 5% Mannitol, 0.01%
	Tween80, pH7.4.
RECONSTITUTION	Always centrifuge tubes before opening.Do not mix by



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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.

STORAGELyophilized protein should be stored at < -20 ° C,<br/>though stable at room temperature for 3 weeks.<br/>Reconstituted protein solution can be stored at 4-7°C<br/>for 2-7 days.

Aliquots of reconstituted samples are stable at < -20° 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.



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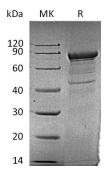
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It Interacts with SH3BP3 and STEAP3, facilitates TFRC endocytosis in erythroid precursor cells. Cellular uptake receptor-mediated of iron occurs via endocytosis of ligand-occupied transferrin receptor into specialized endosomes. Endosomal acidification 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 heditary 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**



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