

Recombinant Human Transferrin Receptor/TFRC Protein (His Tag)



Catalog Number:PKSH033496

Note: Centrifuge before opening to ensure complete recovery of vial contents.

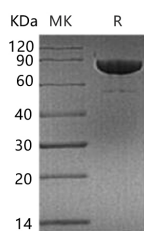
Description

Synonyms	Transferrin receptor protein 1;TR;TfR;Trfr;T9;p90;CD71;T9;TFR;TFR;TRFR
Species	Human
Expression Host	HEK293 Cells
Sequence	Leu101-Phe760
Accession	P02786
Calculated Molecular Weight	74.9 kDa
Observed molecular weight	80-90 kDa
Tag	N-His

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per µg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20mM PB, 150mM NaCl, 5% Trehalose, 5% Mannitol, 0.01% Tween80, pH7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the speci
Reconstitution	Please refer to the printed manual for detailed information.

Data



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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

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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.

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