

## Recombinant Human Transferrin Receptor/TFRC Protein (His Tag)

**Catalog Number: PKSH033496**

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

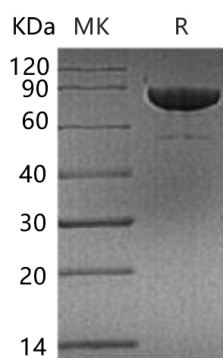
### Description

<b>Species</b>	Human
<b>Source</b>	HEK293 Cells-derived Human Transferrin Receptor/TFRC protein Leu101-Phe760, with an N-terminal His
<b>Calculated MW</b>	74.9 kDa
<b>Observed MW</b>	80-90 kDa
<b>Accession</b>	P02786
<b>Bio-activity</b>	Loaded Recombinant Human Transferrin (PKSH033385) on SA Biosensor, can bind Recombinant Human TFRC (N-6His) (PKSH033496) with an affinity constant of 99.1 nM as determined in BLI assay.

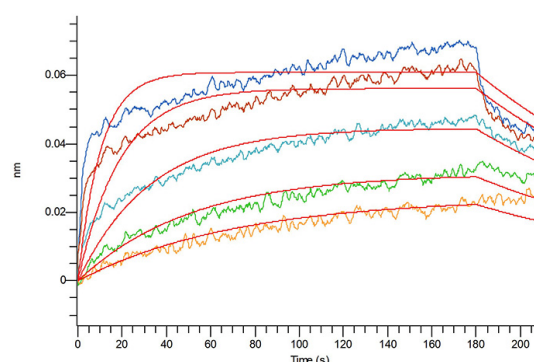
### Properties

<b>Purity</b>	> 95 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	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.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 20mM PB, 150mM NaCl, 5% Trehalose, 5% Mannitol, 0.01% Tween 80, pH7.4. 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 printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

### Data



> 95 % as determined by reducing SDS-PAGE.



Loaded Recombinant Human Transferrin (PKSH033385) on SA Biosensor, can bind Recombinant Human TFRC (N-6His) (PKSH033496) with an affinity constant of 99.1 nM as determined in BLI assay.

### Background

### For Research Use Only

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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 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.