

Transferrin Receptor/TFRC Protein, Human, Recombinant (His)

General Information

Synonyms:	TFR1;p90;CD71;TFR;transferrin receptor;T9;TRFR;TR
Protein Construction:	A DNA sequence encoding the extracellular domain of human TFRC (AAA61153.1) (Cys89-Phe760) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAA61153.1
Molecular Weight:	77.4 kDa (predicted)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized human CD71 at 10 µg/ml (100 µl/well) can bind human Transferrin. The EC50 of human Transferrin is 5.6 ng/mL.
Purity:	> 90 % as determined by SDS-PAGE. > 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris, 150 mM NaCl, 5% Mannitol, 0.02% Tween 80, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
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. <small>Actual storage temperature shall be subject to the COA.</small>

Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.
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Protein Background

Transferrin receptor protein 1, also known as transferrin receptor, Trfr, p9, CD71 and TFRC, is a single-pass type II membrane protein that belongs to the peptidase M28 family and M28B subfamily. TFRC / CD71 is a membrane-bound protein expressed in larger amounts in proliferating. The specific expression of TFRC can represent a diagnostic tool or a therapeutic target in solid tumours expressing this antigen. Transferrin receptor is necessary

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for development of erythrocytes and the nervous system. TFRC / CD71 is regulated by cellular iron levels through binding of the iron regulatory proteins, IRP1 and IRP2, to iron-responsive elements in the 3'-UTR. Up-regulated upon mitogenic stimulation. TFRC / CD71 represents a marker of malignant transformation in the pancreas that could be applied as potential diagnostic and therapeutic target.

Reference

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Ryschich, E. et al., 2004, Eur J Cancer. 40 (9):1418-22.

Tosoni D., et al., 2005, Cell 123:875-888.

Wollscheid B., et al., 2009, Nat. Biotechnol. 27:378-386.

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