Recombinant Human TFRC Protein, C-His-tagged

Cat. No. TFRC-137H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human TFRC Protein with C-His tag was expressed in E. coli.
Species	Human
Source	E.coli
Description	Transferrin receptor 1 (CD71, TFRC) is a type II transmembrane receptor and carrier protein responsible for the uptake of cellular iron through receptor-mediated endocytosis. Neutral pH at the cell surface promotes binding of the iron-binding glycoprotein transferrin (Tf) to the CD71 receptor. The receptor-ligand complex enters the cell through receptor-mediated endocytosis and is internalized into an endosome. Relatively lower endosomal pH leads to a change in the local charge environment surrounding the iron-transferrin binding site and results in the release of iron. The receptor-ligand complex is recycled to the cell surface where transferrin dissociates from the CD71 receptor. Ubiquitously expressed transferrin receptor is continuously recycled and undergoes clathrin-mediated endocytosis regardless of ligand binding state. The interaction between receptor and ligand has been studied in detail. The helical domain of CD71 directly interacts with the transferrin C-lobe and induces a conformation change in Tf to facilitate the transport process. Interaction between the receptor CD71 and transferrin is mediated by the membrane protein hemochromatosis (HFE). HFE binds the α-helical domain of CD71, blocking formation of the CD71-transferrin complex and inhibiting iron uptake. In addition to binding transferrin, CD71 also interacts with H-ferritin at the cell surface and transports this intracellular iron storage protein to cellular endosomes and lysosomes. Additional

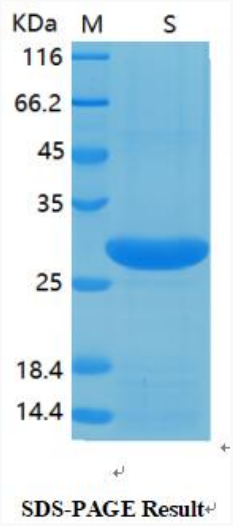
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	studies indicate that the transferrin receptor is an evolutionarily conserved receptor for a number or arenaviruses and at least one retrovirus. Aberrant expression of CD71 is seen in a number of cancers, including thyroid carcinomas, lymphomas, and T-lineage leukemias, suggesting a possible therapeutic role for targeted inhibition of the transferrin receptor.
Molecular Mass	~27 kDa
AA Sequence	QNVKHPVTGQFLYQDSNWASKVEKLTLDNAAFPFLAYSGIPAVSFCFCEDTDYPYL GTTMDTYKELIERIPELNKVARAAAEVAGQFVIKLTHDVELNLDYERYNSQLLSFVRD LNQYRADIKEMGLSLQWLYSARGDFFRATSRLTTDFGNAEKTDRFVMKKLNDRVMR VEYHFLSPYVSPKESPFRHVFWGSGSHTLPALLENLKLRKQNNGAFNETLFRNQLA LATWTIQGAANALSG
Purity	Transferred into competent cells and the supernatant was purified by NI column affinity chromatography and the purity is > 85% (by SDS-PAGE).
Notes	For research use only, not for use in diagnostic procedure.
Storage	Store at 4 centigrade short term. Aliquot and store at -20 centigrade long term. Avoid freeze-thaw cycles.
Concentration	≥0.5 mg/mL
Storage Buffer	PBS, 4M Urea, pH7.4

GENE INFORMATION

Gene Name	TFRC transferrin receptor (p90, CD71) [Homo sapiens (human)]
Official Symbol	TFRC

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Synonyms	TFRC; transferrin receptor (p90, CD71); transferrin receptor protein 1; CD71; TFR1; T9; TR; TFR; p90; TRFR;
Gene ID	7037
mRNA Refseq	NM_001128148
Protein Refseq	NP_001121620
MIM	190010
UniProt ID	P02786
SDS-PAGE	 SDS-PAGE Result

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