Transferrin Receptor / TFRC / CD71 (TFRC) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Transferrin Receptor / TFRC / CD71, Recombinant Protein
Full Product Name	Recombinant Human Transferrin Receptor / TFRC / CD71 Protein (His tag)
Product Gene Name	TFRC recombinant protein
Product Synonym Gene Name	CD71
Product Synonym Names	CD71, TFR, TFR1, TRFR
Host	Human Cells
Form/Format	Lyophilized from sterile PBS, pH 7.4
Purity/Purification	> 85 % as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -70 degree C
Molecular Weight	84,871 Da
OMIM	X01060 mRNA
3D Structure	ModBase 3D Structure for P02786
Predicted N Terminal	His
Endotoxin	< 1.0 EU per mug of the protein as determined by the LAL method
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Application Notes for TFRC recombinant protein	The recombinant human TFRC comprises 689 amino acids and has a predicted molecular mass of 77.4 kDa.
Related Product Information for TFRC recombinant protein	Background: Mouse transferrin receptor protein 1, also known as transferrin receptor, Trfr, p90, CD71 and TFRC, is a single-pass type II membrane protein which 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 tool or a therapeutic target in solid tumours expressing this antigen. Transferrin receptor is necessary 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 therapeutic target. Description: A DNA sequence encoding the extracellular domain of human TFRC (NP_003225.2) (Cys 89-Phe 760) was expressed with a polyhistidine tag at the N-terminus.
Other Notes	Small volumes of TFRC recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TFRC purchase	MBS2545959 is a recombinant protein targeting TFRC. Also known as Recombinant Human Transferrin Receptor / TFRC / CD71 Protein (His tag). Host: Human Cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TFRC. It may not necessarily be applicable to this product.

NCBI GI #	189458817
NCBI GeneID	7037

NCBI Accession #	NP_003225.2
UniProt Primary Accession #	P02786
UniProt Secondary Accession #	Q1HE24; Q59G55; Q9UCN0; Q9UCU5; Q9UDF9; Q9UK21; D3DXB0
UniProt Related Accession #	P02786
GenBank Nucleotide #	NM_003234.3
NCBI Official Full Name	transferrin receptor protein 1 isoform 1
NCBI Official Synonym Full Names	transferrin receptor
NCBI Official Symbol	TFRC
NCBI Official Synonym Symbols	T9; TR; TFR; p90; CD71; TFR1; TRFR; IMD46
UniProt Protein Name	Transferrin receptor protein 1
UniProt Synonym Protein Names	T9; p90; CD_antigen: CD71
Protein Family	Transferrin receptor protein
UniProt Gene Name	TFRC
UniProt Synonym Gene Names	TR; TfR; TfR1; Trfr; sTfR
NCBI Protein Information	transferrin receptor protein 1
NCBI Summary for TFRC	This gene encodes a cell surface receptor necessary for cellular iron uptake by the process of receptor-mediated endocytosis. This receptor is required for erythropoiesis and neurologic development. Multiple alternatively spliced variants have been identified. [provided by RefSeq, Sep 2015]
UniProt Comments for TFRC	TfR: the transferrin receptor. Regulates the cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied receptors 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. Protein type: Cell surface; Membrane protein, integral; Receptor, misc. Chromosomal Location of Human Ortholog: 3q29 Cellular Component: basolateral plasma membrane; cell surface; coated pit; cytoplasmic vesicle; endosome; external side of plasma membrane; extracellular region; extracellular space; integral to plasma membrane; intracellular membrane-bound organelle; perinuclear region of cytoplasm; plasma membrane; recycling endosome Molecular Function: double-stranded RNA binding; glycoprotein binding; identical protein binding; protein binding; protein homodimerization activity; transferrin receptor activity; transferrin transmembrane transporter activity Biological Process: positive regulation of B cell proliferation; positive regulation of isotype switching; positive regulation of T cell proliferation; receptor internalization; regulation of cell growth; regulation of cell proliferation; transferrin transport Disease: Immunodeficiency 46
Research Articles on TFRC	**1.** Data show that the concentration of soluble transferrin receptor with high diagnostic value in the detection of iron deficiency-based anemia in patients undergoing dialysis for chronic renal failure at the end-stage.
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