

TFRC Protein, Mouse (HEK293, His)

Cat. No.:	HY-P72455
Synonyms:	Transferrin receptor protein 1; TR; Tfr; Tfr1; Tfr; CD71; Tfr
Species:	Mouse
Source:	HEK293
Accession:	Q62351 (C89-F763)
Gene ID:	22042
Molecular Weight:	Approximately 90 kDa

PROPERTIES

AA Sequence

CKRVEQKEEC	VKLAETEETD	KSETMETEDV	PTSSRLYWAD
LKTLLESEKLN	SIEFADTIKQ	LSQNTYTPRE	AGSQKDESLA
YYIENQFHEF	KFSKVRDEH	YVKIQVKSSI	GQNMVTIVQS
NGNLDPVESP	EGYVAFSKPT	EVSGKLVHAN	FGTKKDFEEL
SYSVNGSLVI	VRAGEITFAE	KVANAQSFNA	IGVLIYMDKN
KFPVVEADLA	LFGHAHLGTG	DPYTPGFPSF	NHTQFPSPQS
SGLPNI PVQT	ISRAAAEKLF	GKMEGSCPAR	WNIDSSCKLE
LSQNQNVKLI	VKNV LKERRI	LNIFGVIKGY	EEDRYVVVG
AQRDALGAGV	AAKSSVGTGL	LLKLAQVFS	MISKDGF RPS
RSII FASWTA	GDFGAVGATE	WLEGYLSSLH	LKAFTYINLD
KVV LGT SNFK	VSASPLLYTL	MGKIMQDVKH	PVDGKSLYRD
SNWISKVEKL	SFDNAAYPFL	AYSGIPAVSF	CFCEDADYPY
LGTRLDTYEA	LTQKVPQLNQ	MVRTAAEVAG	QLIIKLTHDV
ELNLDYEMYN	SKLLSFMKDL	NQFKTDIRDM	GLSLQWLYSA
RGDYFRATSR	LTTFHNAEK	TNRFVMREIN	DRIMKVEYHF
LSPYVSPRES	PFRHIFWGS	SHTLSALVEN	LKLRQKNITA
FNETLFRNQL	ALATWTIQGV	ANALSGDIWN	IDNEF

Appearance Lyophilized powder.

Formulation Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.

Endotoxin Level <1 EU/µg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

TFRC, a pivotal protein in cellular iron uptake, orchestrates receptor-mediated endocytosis of ligand-occupied transferrin into specialized endosomes, where endosomal acidification triggers iron release. The apotransferrin-receptor complex undergoes recycling to the cell surface while a return to neutral pH, leading to the loss of apotransferrin affinity for its receptor. Essential for erythrocyte and nervous system development, TFRC positively regulates T and B cell proliferation through iron uptake. Acting as a lipid sensor, TFRC modulates mitochondrial fusion by regulating the JNK pathway. Low dietary stearate levels induce JNK pathway activation, resulting in HUWE1-mediated ubiquitination and degradation of mitofusin MFN2, inhibiting mitochondrial fusion. Conversely, high stearate levels stearylates TFRC, suppressing JNK pathway activation and preventing MFN2 degradation. TFRC also can function as a homodimer with disulfide linkage, binding one transferrin molecule per subunit, and interacts with SH3BP4 and STEAP3, the latter facilitating TFRC endocytosis in erythroid precursor cells.

Caution: Product has not been fully validated for medical applications. For research use only.

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