

## TFRC Protein, Mouse (Biotinylated, HEK293, His)

Cat. No.:	HY-P701303
Synonyms:	CD71; TFRC; TFR; sTfR; TfR1; Trfr; T9; p90
Species:	Mouse
Source:	HEK293
Accession:	Q62351 (C89-F763)
Gene ID:	22042
Molecular Weight:	80-100 kDa

### PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from 0.22 $\mu$ m filtered solution of PBS, pH7.4 with trehalose as protectant.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
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	<p>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 stearyl 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.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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