

**TFRC Antibody**  
**Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM2075b**

**Specification**

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**TFRC Antibody - Product Information**

Application	WB,E
Primary Accession	<a href="#">P02786</a>
Other Accession	<a href="#">NP_001121620.1</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgM
Calculated MW	84871
Antigen Region	649-677

**TFRC Antibody - Additional Information**

**Gene ID** 7037

**Other Names**

Transferrin receptor protein 1, TR, TfR, TfR1, Trfr, T9, p90, CD71, Transferrin receptor protein 1, serum form, sTfR, TFRC

**Target/Specificity**

This TFRC antibody is generated from mice immunized with a KLH conjugated synthetic peptide between 649-677 amino acids from human TFRC.

**Dilution**

WB~~1:1000

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Euglobin precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

TFRC Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**TFRC Antibody - Protein Information**

**Name** TFRC

**Function** Cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied transferrin receptor into specialized endosomes (PubMed:[26214738](#)). 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 (By similarity). A second ligand, the hereditary hemochromatosis protein HFE, competes for binding with transferrin for an overlapping C- terminal binding site. Positively regulates T and B cell proliferation through iron uptake (PubMed:[26642240](#)). Acts as a lipid sensor that regulates mitochondrial fusion by regulating activation of the JNK pathway (PubMed:[26214738](#)). When dietary levels of stearate (C18:0) are low, promotes activation of the JNK pathway, resulting in HUWE1- mediated ubiquitination and subsequent degradation of the mitofusin MFN2 and inhibition of mitochondrial fusion (PubMed:[26214738](#)). When dietary levels of stearate (C18:0) are high, TFRC stearoylation inhibits activation of the JNK pathway and thus degradation of the mitofusin MFN2 (PubMed:[26214738](#)). Mediates uptake of NICOL1 into fibroblasts where it may regulate extracellular matrix production (By similarity).

#### Cellular Location

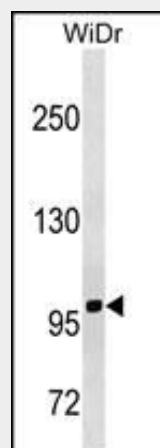
Cell membrane; Single-pass type II membrane protein Melanosome. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV

#### TFRC Antibody - Protocols

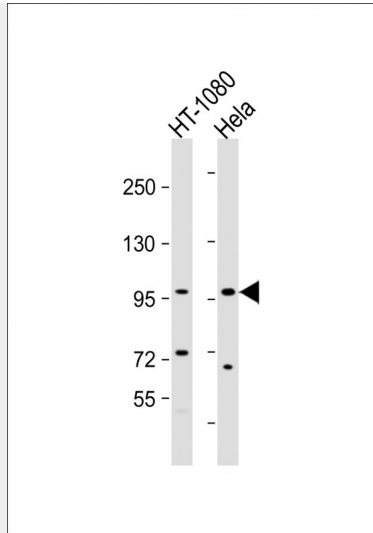
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### TFRC Antibody - Images



TFRC Antibody (Cat. #AM2075b) western blot analysis in WiDr cell line lysates (35µg/lane). This demonstrates the TFRC antibody detected the TFRC protein (arrow).



All lanes : Anti-CD71 Antibody (C-term) at 1:1000 dilution Lane 1: HT-1080 whole cell lysate Lane 2: HeLa whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgM, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 85 kDa Blocking/Dilution buffer: 5% NFD/MTBST.

### **TFRC Antibody - Background**

Cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied transferrin receptor 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 (By similarity). A second ligand, the hereditary hemochromatosis protein HFE, competes for binding with transferrin for an overlapping C-terminal binding site.

### **TFRC Antibody - References**

- Bailey, S.D., et al. *Diabetes Care* 33(10):2250-2253(2010)
- Ucisik-Akkaya, E., et al. *Mol. Hum. Reprod.* 16(10):770-777(2010)
- Blonde-Cynober, F., et al. *Ann. Biol. Clin. (Paris)* 68(5):569-575(2010)
- Marsee, D.K., et al. *Am. J. Clin. Pathol.* 134(3):429-435(2010)
- Fernandez-Real, J.M., et al. *Eur. J. Clin. Invest.* 40(7):600-607(2010)