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TFRC Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM2075B

Product Information

Application	WB, E
Primary Accession	P02786
Other Accession	NP_001121620.1
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgM
Clone Names	514CT23.4.1
Calculated MW	84871
Antigen Region	649-677

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~~1:500~1000 E~~Use at an assay dependent concentration.
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.

Protein Information

Name	TFRC
Function	Cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied transferrin receptor into specialized endosomes (PubMed:26214738, PubMed:41772062). 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

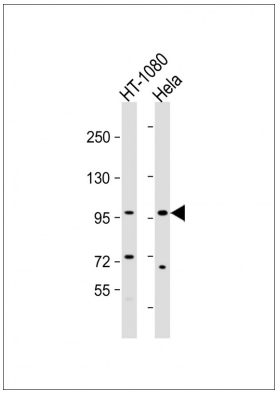
Background

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 heditary hemochromatosis protein HFE, competes for binding with transferrin for an overlapping C-terminal binding site.

References

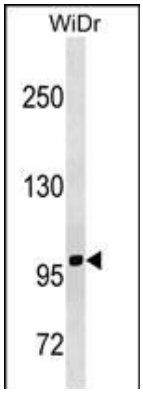
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Ucisik-Akkaya, E., et al. Mol. Hum. Reprod. 16(10):770-777(2010)
Blonde-Cynober, F., et al. Ann. Biol. Clin. (Paris) 68(5):569-575(2010)
Marsee, D.K., et al. Am. J. Clin. Pathol. 134(3):429-435(2010)
Fernandez-Real, J.M., et al. Eur. J. Clin.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

Images



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% NFDM/TBST.

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



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.