10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Transferrin Receptor Rabbit mAb

Catalog # AP74906

Product Information

Application	WB
Primary Accession	P02786
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	84871

Additional Information

Gene ID	7037
Other Names	TFRC
Dilution	WB~~1:2000-1:5000
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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).

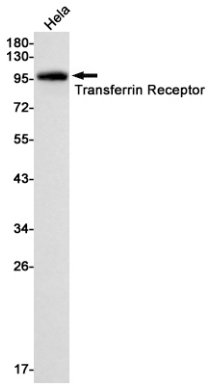
Cellular Location

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

Background

Transferrin receptor is a carrier protein for transferrin. It is needed for the import of iron into the cell and is regulated in response to intracellular iron concentration. Low iron concentrations promote increased levels of transferrin receptor, to increase iron intake into the cell. Thus, transferrin receptor maintains cellular iron homeostasis. Expression of human TFR1, but not human TFR2, in hamster cell lines markedly enhanced the infection of viruses pseudotyped with the glycoprotein of Machupo, Guanarito, and Junin viruses, but not with those of Lassa or lymphocytic choriomeningitis viruses. An anti-TFR1 antibody efficiently inhibited the replication of Machupo, Guanarito, Junin, and Sabia viruses, but not that of Lassa virus.TFR1 is a cellular receptor for New World hemorrhagic fever arenaviruses.

Images



Western blot analysis of Transferrin Receptor in Hela lysates using Transferrin Receptor 1 antibody.

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