



CD71 / Transferrin Receptor (TFRC) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone TFRC/1149] Catalog # AH12387

Product Information

Application WB, IF, FC
Primary Accession P02786
Other Accession 7037, 529618
Reactivity Human
Host Mouse
Clonality Monoclonal

Isotype Mouse / IgG1, kappa

Clone Names TFRC/1149
Calculated MW 84871

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

Application Note WB~~1:1000 IF~~1:50~200 FC~~1:10~50

Storage Store at 2 to 8°C.Antibody is stable for 24 months.

Precautions CD71 / Transferrin Receptor (TFRC) Antibody - With BSA and Azide 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:<u>26214738</u>). 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

It recognizes a ~90-95kDa protein which is identified as cell surface transferrin receptor (CD71), a disulfide-bonded homodimeric glycoprotein of 180-190kDa. This MAb is highly specific to CD71 and shows no cross-reaction with other related proteins. Ligand for transferrin receptor is the serum iron transport protein, transferrin. This receptor is broadly distributed in carcinomas, sarcomas, leukemias, and lymphomas. CD71/Transferrin receptor has been reported to be associated with cell proliferation in both normal and neoplastic tissues and useful in predicting clinical behavior or response to therapy in a number of malignancies including breast cancer.

References

Van de Rijna M, Geurts van Kessel AHM, Kroezen V, van Agthoven AJ, Verstijnen K, Terhorst C, Hilgers J: Cytogenet Cell Genet 1983;36:525-531. | Oudermans et al. Cancer, 1986; 58:1252. | K. Moolenaar et al. Cancer research 50,1102-1106, 1990

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