

# Anti-CD71 / Transferrin Receptor (TFRC) (Extracellular Domain) Antibody

Mouse Monoclonal Antibody Catalog # AH13532

# **Product Information**

Application	IF, FC, E
Primary Accession	<u>P02786</u>
Other Accession	<u>529618</u>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2b, kappa
Clone Names	TFRC/1818
Calculated MW	84871

## **Additional Information**

Gene ID	7037
Other Names	Mtvr-1, p90, TFR1, TFRC transferrin receptor (p90 CD71), TRFR
Application Note	ELISA (Use Ab at 2-4ug/ml for coating) (Order Ab without BSA); ,Flow Cytometry (0.5-1ug/million cells in 0.1ml); Immunofluorescence (1-2ug/ml); ,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 minutes) ,Western Blotting (0.5-1.0ug/ml),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-CD71 / Transferrin Receptor (TFRC) (Extracellular Domain) 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: <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: <u>26642240</u> ). Acts as a lipid sensor that regulates mitochondrial fusion by regulating activation of the JNK pathway (PubMed: <u>26214738</u> ). 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: <u>26214738</u> ). 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: <u>26214738</u> ). 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.

### Images



Formalin-fixed, paraffin-embedded Human Placenta stained with CD71 Monoclonal Antibody (TFRC/1818).

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