

**CD71 Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP2949b****Specification**

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**CD71 Antibody (C-term) Blocking Peptide - Product Information**Primary Accession [P02786](#)**CD71 Antibody (C-term) Blocking Peptide - 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, TFR

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP2949b](/products/AP2949b) was selected from the C-term region of human CD71. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**CD71 Antibody (C-term) Blocking Peptide - Protein Information****Name** TFR**Function**

Cellular uptake of iron occurs via receptor-mediated endocytosis of ligand-occupied transferrin receptor into specialized endosomes (PubMed: [26214738](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/26642240)). Acts as a lipid sensor that regulates mitochondrial fusion by regulating activation of the JNK pathway (PubMed: [26642240](#)).

href="http://www.uniprot.org/citations/26214738" target="\_blank">26214738</a>). 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:<a href="http://www.uniprot.org/citations/26214738" target="\_blank">26214738</a>). 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:<a href="http://www.uniprot.org/citations/26214738" target="\_blank">26214738</a>).

#### **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

### **CD71 Antibody (C-term) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

### **CD71 Antibody (C-term) Blocking Peptide - Images**

### **CD71 Antibody (C-term) Blocking Peptide - 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). Useful in studies of dividing haematopoietic and tumour cell populations, and metabolic activity. A second ligand, the hereditary hemochromatosis protein HFE, competes for binding with transferrin for an overlapping C terminal binding site. The antigen is present on most dividing cells, including normally cycling in vivo hematopoietic progenitor cells, mitogenically stimulated cells in vitro, some primary tumor cells and most proliferating cells in vitro. The transferrin receptor has been structurally characterized as a sulfide bound dimer of identical glycoprotein subunits of 95 kDa. The transferrin receptor is not present on resting blood lymphocytes. On PBL, the receptor appears after activation. The expression of transferrin receptor is coordinately regulated with cell growth. Present on T and B cell lines. The soluble (or serum) transferrin receptor (sTfR) is a circulating truncated form of the membrane receptor protein; it is an 85 kDa glycoprotein forming in serum a 320 kDa complex with diferric transferrin. The most important clinical use of the sTfR determination is in the differential diagnosis between iron deficiency anaemia and the anaemia of chronic disease. This antibody is an indicator of proliferation activity. It also has prognostic significance when typing tumors, such as leukemias and lymphomas.

### **CD71 Antibody (C-term) Blocking Peptide - References**

Chicz, R.M., et.al., Nature 358 (6389), 764-768 (1992) Hayes, G.R., et.al., Glycobiology 2 (4), 355-359 (1992)