

# PRODUCT INFORMATION

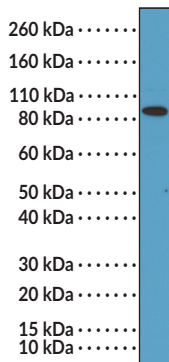
## Transferrin Receptor Protein 1/CD71 Rabbit Monoclonal Antibody (Clone RM384)

Item No. 32311

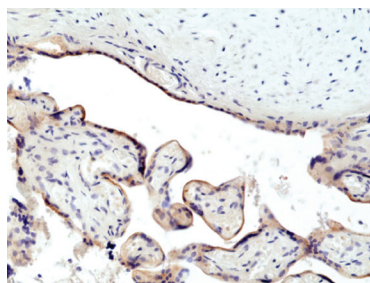
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Cluster of Differentiation 71, p90, TfR1, TFRC
<b>Immunogen:</b>	Peptide from the internal region of human TfR1
<b>Cross Reactivity:</b>	(+) TfR1
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM384
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:250-1:500 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

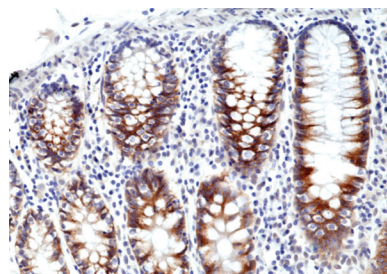
### Images



WB of HeLa cell lysate using Transferrin Receptor Protein 1/CD71 Rabbit Monoclonal Antibody (Clone RM384) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human placenta tissue using Transferrin Receptor Protein 1/CD71 Rabbit Monoclonal Antibody (Clone RM384) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human colon cancer tissue using Transferrin Receptor Protein 1/CD71 Rabbit Monoclonal Antibody (Clone RM384) at a dilution of 1:500.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Transferrin receptor protein 1 (TfR1), also known as CD71, is a homodimeric transmembrane receptor for transferrin (Item No. 32030) that facilitates iron delivery into cells and is encoded by *TFRC* in human.<sup>1</sup> It is composed of two TfR1 monomers, each composed of a 67-amino acid cytoplasmic tail with an internalization motif, a membrane spanning portion, a stalk region that covalently links the monomers, and an extracellular ectodomain. The ectodomain binds transferrin and is composed of an apical domain, a protease-like domain, and a helical domain that drives TfR1 dimerization.<sup>1,2</sup> TfR1 is ubiquitously expressed, except on mature red blood cells and certain terminally differentiated cells, with the highest expression on immature erythroid cells and in the placenta, and is involved in erythropoiesis, lymphocyte development, and hematopoietic expansion in the bone marrow.<sup>3,4</sup> TfR1/transferrin-mediated iron transport contributes to the intracellular iron pool required for ferroptosis and anti-TfR1 antibodies have been used in combination with anti-malondialdehyde antibodies to identify ferroptotic cells *in vitro* and human cancer tissue in a mouse xenograft model.<sup>5</sup> A soluble form of TfR1 is present in serum and increased levels are associated with autoimmune hemolytic anemia, polycythemia vera, and iron deficiency anemia, while decreased levels are associated with chronic renal failure and aplastic anemia.<sup>6</sup> *TFRC* is overexpressed in various breast cancer tumors and gliomas and positively correlated with poor prognosis.<sup>7</sup> Cayman's TfR1/CD71 Rabbit Monoclonal Antibody (Clone RM384) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References

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4. Wang, S., He, X., Wu, Q., *et al.* Transferrin receptor 1-mediated iron uptake plays an essential role in hematopoiesis. *Haematologica* **105(8)**, 2071-2082 (2020).
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7. Shen, Y., Li, X., Dong, D., *et al.* Transferrin receptor 1 in cancer: A new sight for cancer therapy. *Am. J. Cancer Res.* **8(6)**, 916-931 (2018).

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