

PRODUCT INFORMATION



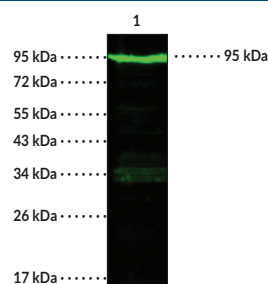
Transferrin Receptor Protein 1/CD71 (human) Rabbit Monoclonal Antibody (Clone 001)

Item No. 37082

Overview and Properties

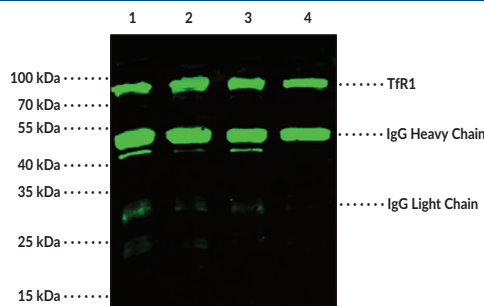
Contents:	This vial contains 50 or 100 µl of protein A-purified monoclonal antibody.
Synonyms:	Cluster of Differentiation 71, p90, TFRC, Tfr1, Transferrin Receptor Protein 1
Immunogen:	Recombinant human Tfr1
Cross Reactivity:	(+) Tfr1
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	001
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution is 1:5,000-1:10,000 for ELISA, 1:500-1:2,000 for WB and 0.5-2 µl/mg of lysate for IP. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



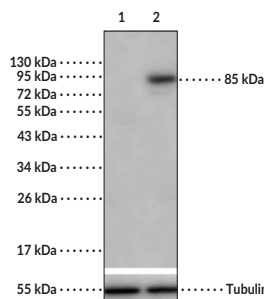
Lane 1: HeLa whole cell lysate (30 µg)

WB of Transferrin Receptor Protein 1/CD71 (human) Rabbit Monoclonal Antibody (Clone 001) at a dilution of 1:500.



Lane 1: Jurkat whole cell lysate
Lane 2: MCF-7 whole cell lysate
Lane 3: HepG2 whole cell lysate
Lane 4: HeLa whole cell lysate

WB of Tfr1 IP samples (500 µg whole cell lysate and 2 µg IgG per IP).



Lane 1: Tfr1 knockout HeLa whole cell lysate (20 µg)
Lane 2: HeLa whole cell lysate (20 µg)

WB of Transferrin Receptor Protein 1/CD71 (human) Rabbit Monoclonal Antibody (Clone 001) 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
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Description

Transferrin receptor (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 humans.¹ It is composed of two TfR1 monomers, each containing a cytoplasmic tail, an internalization motif, a membrane-spanning portion, and a stalk region that covalently links the monomers. An extracellular ectodomain binds transferrin and drives TfR1 dimerization.^{1,2} 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.^{3,4} TfR1/transferrin-mediated iron transport contributes to the intracellular iron pool required for ferroptosis and an anti-TfR1 antibody has been used in combination with anti-malondialdehyde antibodies to identify ferroptotic cells *in vitro* and human cancer tissue in a mouse xenograft model.⁵ *TFRC* is overexpressed in various breast cancer tumors and gliomas and positively correlated with poor prognosis.⁶ Cayman's Transferrin Receptor Protein 1/CD71 (human) Rabbit Monoclonal Antibody (Clone 001) can be used for ELISA, immunoprecipitation (IP), and Western blot (WB) applications.

References

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3. Ponka, P. and Lok, C.N. The transferrin receptor: Role in health and disease. *Int. J. Biochem. Cell Biol.* **31(10)**, 1111-1137 (1999).
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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6. 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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