

Datasheet: MCA155FT

Description:	MOUSE ANTI RAT CD71:FITC
Specificity:	CD71
Other names:	TRANSFERRIN RECEPTOR
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	OX-26
Isotype:	IgG2a
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species	Rat		
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	FITC	490	525
Preparation	Purified IgG prepared by affinity chromatography on Protein A		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml		

Immunogen PHA activated rat lymphocytes.

External Database Links

UniProt:

[Q99376](#) [Related reagents](#)

Entrez Gene:

[64678](#) Tfrc [Related reagents](#)

Synonyms Trfr

RRID AB_322581

Fusion Partners Spleen cells from immunised Balb/c mice were fused with cells from the NS1 mouse myeloma cell line.

Specificity **Mouse anti Rat CD71 antibody, clone OX-26** recognizes rat CD71, also known as transferrin receptor, a homodimeric type II transmembrane protein, expressed by all proliferating cells and cells with a requirement for iron, including reticulocytes and capillary endothelium in brain. Clone OX-26 also binds to a number of non-dividing normal tissues.

The balance between a sufficient amount of iron uptake and prevention of accumulation of excess iron within a cell, is vitally important to maintain cellular functions such as oxygen and electron transport and mitochondrial energy metabolism, whilst preventing permanent cell and tissue damage. Transferrin receptor (CD71), transferrin and ferritin have been identified as specialised proteins which control the uptake, transport and storage of free iron in tissues, thereby maintaining iron homeostasis ([Crihton et al. 1992](#)).

An imbalance in iron homeostasis within the brain has been linked with the neurodegenerative diseases, Alzheimer's, Parkinson's, Huntington's and Multiple Sclerosis ([Benarroch 2009](#)).

Mouse anti rat CD71 clone OX-26 is reported as suitable for use in immunoelectron microscopy ([Lipardi et al. 2002](#)). OX-26 detects a band of ~95kDa in Western blotting under reducing conditions and ~195 kDa under non-reducing conditions reflecting it's homodimeric structure.

Flow Cytometry Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.

References

1. Jefferies, W.A. *et al.* (1985) Analysis of lymphopoietic stem cells with a monoclonal antibody to the rat transferrin receptor. [Immunology. 54 \(2\): 333-41.](#)
2. Yefimova, M.G. *et al.* (2002) Impaired retinal iron homeostasis associated with defective phagocytosis in Royal College of Surgeons rats. [Invest Ophthalmol Vis Sci. 43 \(2\): 537-45.](#)
3. Jefferies, W.A. *et al.* (1984) Transferrin receptor on endothelium of brain capillaries. [Nature. 312 \(5990\): 162-3.](#)
4. Lipardi, C. *et al.* (2002) Differential recognition of a tyrosine-dependent signal in the basolateral and endocytic pathways of thyroid epithelial cells. [Endocrinology. 143 \(4\):](#)

[1291-301.](#)

5. Stevenson, K.S. *et al.* (2009) Isolation, characterization, and differentiation of thy1.1-sorted pancreatic adult progenitor cell populations. [Stem Cells Dev. 18 \(10\): 1389-98.](#)
6. Jung, S.H. *et al.* (2008) Plantaris muscle of aged rats demonstrates iron accumulation and altered expression of iron regulation proteins. [Exp Physiol. 93: 407-14.](#)
7. Chen, X. *et al.* (2000) Oxidative damage in an esophageal adenocarcinoma model with rats. [Carcinogenesis. 21: 257-63.](#)
8. Huang, E. *et al.* (2009) Characterization of rat hair follicle stem cells selected by vario magnetic activated cell sorting system. [Acta Histochem Cytochem. 42: 129-36.](#)
9. Petrusca, D.N. *et al.* (2010) Sphingolipid-mediated inhibition of apoptotic cell clearance by alveolar macrophages. [J Biol Chem. 285: 40322-32.](#)
10. Wu, Y.J. *et al.* (2007) *In vivo* leukocyte labeling with intravenous ferumoxides/protamine sulfate complex and *in vitro* characterization for cellular magnetic resonance imaging. [Am J Physiol Cell Physiol. 293: C1698-708.](#)
11. De Luca, M.A. *et al.* (2015) Lactoferrin- and antitransferrin-modified liposomes for brain targeting of the NK3 receptor agonist senktide: Preparation and *in vivo* evaluation. [Int J Pharm. 479: 129-137.](#)
12. Gosk, S. *et al.* (2004) Targeting anti-transferrin receptor antibody (OX26) and OX26-conjugated liposomes to brain capillary endothelial cells using *in situ* perfusion. [J Cereb Blood Flow Metab. 24: 1193-204.](#)
13. Pang, Z. (2008) Preparation and brain delivery property of biodegradable polymersomes conjugated with OX26. [J Control Release. 128: 120-7.](#)
14. Moos, T, Morgan, E.H. (2001) Restricted transport of anti-transferrin receptor antibody (OX26) through the blood-brain barrier in the rat. [J Neurochem. 79: 119-29.](#)
15. Moos, T. *et al.* (2003) Delivery of transferrin and immunoglobulins to the ventricular system of the rat. [Front Biosci. 8: a102-9.](#)
16. Fabriek, B.O. *et al.* (2007) The macrophage CD163 surface glycoprotein is an erythroblast adhesion receptor. [Blood. 109: 5223-9.](#)
17. Rathnasamy, G. *et al.* (2011) Iron and Iron Regulatory Proteins in Amoeboid Microglial Cells Are Linked to Oligodendrocyte Death in Hypoxic Neonatal Rat Periventricular White Matter through Production of Proinflammatory Cytokines and Reactive Oxygen/Nitrogen Species [J. Neurosci 31: 17982-95.](#)
18. Loureiro, J.A. *et al.* (2016) Cellular uptake of PLGA nanoparticles targeted with anti-amyloid and anti-transferrin receptor antibodies for Alzheimer's disease treatment [Colloids and Surfaces B: Biointerfaces Apr 20 \[Epub ahead of print\]](#)
19. Loureiro, J.A. *et al.* (2015) Dual ligand immunoliposomes for drug delivery to the brain. [Colloids Surf B Biointerfaces. 134: 213-9.](#)
20. Picard, E. *et al.* (2015) Targeting iron-mediated retinal degeneration by local delivery of transferrin. [Free Radic Biol Med. 89: 1105-21.](#)
21. Ashrafzadeh, M.S. *et al.* (2020) *In vivo* Glioblastoma Therapy Using Targeted Liposomal Cisplatin. [Int J Nanomedicine. 15: 7035-49.](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost free freezers is not recommended. This product is photosensitive and

should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee	12 months from date of despatch
------------------	---------------------------------

Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
--------------------------------------	--

Regulatory	For research purposes only
-------------------	----------------------------

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:FITC \(MCA1210F\)](#)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
----------------------------------	---	------------------	---	---------------	---

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M378835:210304'

Printed on 23 Mar 2021