Datasheet: MCA155B

Description:	MOUSE ANTI RAT CD71:Biotin
Specificity:	CD71
Other names:	TRANSFERRIN RECEPTOR
Format:	Biotin
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 - 1/10

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 Biotin - liquid

Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant.

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
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
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 0X-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 10^6 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.

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20. Picard, E. *et al.* (2015) Targeting iron-mediated retinal degeneration by local delivery of transferrin. Free Radic Biol Med. 89: 1105-21.

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. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Shelf Life	18 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

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