

Datasheet: MCA1033GA

Description:	RAT ANTI MOUSE CD71
Specificity:	CD71
Other names:	TRANSFERRIN RECEPTOR
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	YTA74.4
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	▪			
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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	Mouse
Product Form	Purified IgG - 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 (NaN ₃)

Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1 mg/ml
Immunogen	Concanavilin A activated mouse spleen cells.
External Database Links	<p>UniProt: Q62351 Related reagents</p> <p>Entrez Gene: 22042 Tfr Related reagents</p>
Synonyms	Trfr
RRID	AB_324703
Fusion Partners	Spleen cells from an immunized DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
Specificity	<p>Rat anti Mouse CD71 antibody, clone YTA74.4 recognizes the mouse transferrin receptor protein 1 also known as CD71 or TfR1. CD71 is a 763 amino acid glycoprotein homodimer of ~95 kDa subunits. CD71 is expressed by dividing cells, and functions as a transferrin receptor mediating uptake of iron.</p> <p>Rat anti Mouse CD71 antibody, clone YTA74.4 blocks the binding of R17 217.1.3. and R17 208.2 anti-TFR monoclonal antibodies (Trowbridge et al. 1982).</p>
Flow Cytometry	Use 10µl of the suggested working dilution to label 1 x 10 ⁶ cells in 100µl
References	<ol style="list-style-type: none"> 1. Millot, S. <i>et al.</i> (2010) Erythropoietin stimulates spleen BMP4-dependent stress erythropoiesis and partially corrects anemia in a mouse model of generalized inflammation. Blood. 116: 6072-81. 2. Kuo, Y.M. <i>et al.</i> (2004) Mislocalisation of hephaestin, a multicopper ferroxidase involved in basolateral intestinal iron transport, in the sex linked anaemia mouse. Gut. 53: 201-6. 3. Krysiak, K. <i>et al.</i> (2015) Reduced levels of Hspa9 attenuate Stat5 activation in mouse B cells. Exp Hematol. 43 (4): 319-30.e10. 4. Byun, M. <i>et al.</i> (2007) Cowpox virus exploits the endoplasmic reticulum retention pathway to inhibit MHC class I transport to the cell surface. Cell Host Microbe. 2: 306-15. 5. Ripich, T. and Jessberger, R. (2011) SWAP-70 regulates erythropoiesis by controlling α4 integrin. Haematologica. 96: 1743-52. 6. Hadziahmetovic, M. <i>et al.</i> (2012) Microarray analysis of murine retinal light damage reveals changes in iron regulatory, complement, and antioxidant genes in the neurosensory retina and isolated RPE. Invest Ophthalmol Vis Sci. 53 (9): 5231-41. 7. Niewoehner, J. <i>et al.</i> (2014) Increased brain penetration and potency of a therapeutic antibody using a monovalent molecular shuttle. Neuron. 81: 49-60. 8. Sands, S.A. <i>et al.</i> (2015) The habenula and iron metabolism in cerebral mouse models

- of multiple sclerosis. [Neurosci Lett. 606: 204-8.](#)
9. Baumann, B. *et al.* (2017) Conditional Müller Cell Ablation Leads to Retinal Iron Accumulation. [Invest Ophthalmol Vis Sci. 58 \(10\): 4223-34.](#)
 10. Nelvagal, H.R. *et al.* (2020) Comparative proteomic profiling reveals mechanisms for early spinal cord vulnerability in CLN1 disease. [Sci Rep. 10 \(1\): 15157.](#)
 11. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. 41 \(12\): 1952-65.](#)
 12. Zhang, K.R. *et al.* (2022) Conditional knockout of hephaestin in the neural retina disrupts retinal iron homeostasis. [Exp Eye Res. 218: 109028.](#)
 13. Hargreaves, A. *et al.* (2022) Tumours modulate the systemic vascular response to anti-angiogenic therapy. [J Appl Toxicol. 42 \(8\): 1371-84.](#)
 14. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. 41 \(12\): 1952-65.](#)

Further Reading	<ol style="list-style-type: none"> 1. Lesley, J. <i>et al.</i> (1984) Expression of transferrin receptor on murine hematopoietic progenitors. Cell Immunol. 83 (1): 14-25. 2. Trowbridge, I.S. <i>et al.</i> (1982) Murine cell surface transferrin receptor: studies with an anti-receptor monoclonal antibody. J Cell Physiol. 112 (3): 403-10.
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Storage	<p>This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.</p>
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Guarantee	12 months from date of despatch
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Health And Safety Information	<p>Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA1033GA</p> <p>10040</p>
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Regulatory	For research purposes only
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Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight@800
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP
Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight@550 , DyLight@650 , DyLight@800
Goat Anti Rat IgG (STAR131...)	Alk. Phos. , Biotin

Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL \(MCA1212\)](#)

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

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