

Datasheet: MCA2474F

Description:	RAT ANTI MOUSE CD71:FITC
Specificity:	CD71
Other names:	TRANSFERRIN RECEPTOR
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	8D3
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 product 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 product for use in their own system using appropriate negative/positive controls.

Target Species	Mouse						
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid						
Max Ex/Em	<table border="1"> <thead> <tr> <th>Fluorophore</th> <th>Excitation Max (nm)</th> <th>Emission Max (nm)</th> </tr> </thead> <tbody> <tr> <td>FITC</td> <td>490</td> <td>525</td> </tr> </tbody> </table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	FITC	490	525
Fluorophore	Excitation Max (nm)	Emission Max (nm)					
FITC	490	525					
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) 1% Bovine Serum Albumin						
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml						

Immunogen Mouse transformed endothelioma cell line t.end1.

External Database

Links

UniProt:

[Q62351](#) [Related reagents](#)

Entrez Gene:

[22042](#) Tfrc [Related reagents](#)

Synonyms

Tfrc

Fusion Partners

Spleen cells from immunized Lewis rats were fused with the cells of the mouse NS0 myeloma cell line.

Specificity

Rat anti Mouse CD71 antibody, clone 8D3 recognizes mouse CD71, a 763 amino acid ~95 kDa single pass type II cell surface transmembrane glycoprotein, otherwise known as the transferrin receptor. CD71 is a major iron-binding protein, which plays a key role in the transport of iron into cells that require it. In mice, CD71 is widely expressed on a variety of cells, including Sertoli cells and cells which form the blood brain barrier (BBB) in the central nervous system.

Rat anti Mouse CD71 antibody, clone 8D3 recognizes native, soluble and denatured forms of murine CD71. Binding of the 8D3 antibody to CD71 does not inhibit the proliferation of cell lines tested, and does not interfere with the uptake of iron into cells.

Rat anti Mouse CD71 antibody, clone 8D3 has been used as a BBB transporter vector in mice and is suitable for studying CD71 expression, and iron uptake into different tissues, in the mouse ([Kissel *et al.* 1988](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10^6

References

1. Lee, H.J. *et al.* (2000) Targeting rat anti-mouse transferrin receptor monoclonal antibodies through blood-brain barrier in mouse. [J Pharmacol Exp Ther. 292 \(3\): 1048-52.](#)
2. Lee, H.J. *et al.* (2002) Imaging gene expression in the brain *in vivo* in a transgenic mouse model of Huntington's disease with an antisense radiopharmaceutical and drug-targeting technology. [J Nucl Med. 43 \(7\): 948-56.](#)
3. Zhang, Y. *et al.* (2004) Intravenous RNA interference gene therapy targeting the human epidermal growth factor receptor prolongs survival in intracranial brain cancer. [Clin Cancer Res. 10 \(11\): 3667-77.](#)
4. Manich, G. *et al.* (2013) Study of the transcytosis of an anti-transferrin receptor antibody with a Fab' cargo across the blood-brain barrier in mice. [Eur J Pharm Sci. 49 \(4\): 556-64.](#)
5. Cabezón I *et al.* (2015) Trafficking of Gold Nanoparticles Coated with the 8D3 Anti-Transferrin Receptor Antibody at the Mouse Blood-Brain Barrier. [Mol Pharm. 12 \(11\): 4137-45.](#)
6. Sehlin, D. *et al.* (2016) Antibody-based PET imaging of amyloid beta in mouse models of Alzheimer's disease. [Nat Commun. 7: 10759.](#)
7. Sehlin, D. *et al.* (2017) Pharmacokinetics, biodistribution and brain retention of a

bispecific antibody-based PET radioligand for imaging of amyloid- β . [Sci Rep. 7 \(1\): 17254.](#)
8. Monge, M. *et al.* (2020) Functionalized PLGA nanoparticles prepared by nano-emulsion templating interact selectively with proteins involved in the transport through the blood-brain barrier. [Eur J Pharm Biopharm. 156: 155-64.](#)

Further Reading	<ol style="list-style-type: none">1. Jones AR & Shusta EV (2007) Blood-brain barrier transport of therapeutics via receptor-mediation. Pharm Res. 24 (9): 1759-71.2. Pardridge WM (2007) Blood-brain barrier delivery of protein and non-viral gene therapeutics with molecular Trojan horses. J Control Release. 122 (3): 345-8.3. Boado RJ <i>et al.</i> (2009) Engineering and expression of a chimeric transferrin receptor monoclonal antibody for blood-brain barrier delivery in the mouse. Biotechnol Bioeng. 102 (4): 1251-8.
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Storage	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.
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Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Guarantee	12 months from date of despatch
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2474F 10041
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Regulatory	For research purposes only
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Related Products

Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:FITC \(MCA1212F\)](#)

Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

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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](https://www.bio-rad-antibodies.com/datasheets)

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