

Datasheet: MCA45FT

Description:	MOUSE ANTI RAT MHC CLASS II RT1Bu/I:FITC
Specificity:	MHC CLASS II RT1Bu/I
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	OX-3
Isotype:	IgG1
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
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	

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								
Species Cross Reactivity	Reacts with: Mouse N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.								
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid								
Max Ex/Em	<table><tr><th>Fluorophore</th><th>Excitation Max (nm)</th><th>Emission Max (nm)</th></tr><tr><td>FITC</td><td>490</td><td>525</td></tr></table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	FITC	490	525		
Fluorophore	Excitation Max (nm)	Emission Max (nm)							
FITC	490	525							
Preparation	Antibody purified 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	Rat thymocyte membrane glycoproteins.
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells from the NS1 mouse myeloma cell line.
Specificity	<p>Mouse anti Rat MHC Class II RT1Bu/L antibody, clone OX-3 recognizes a polymorphic determinant of the rat RT1B MHC class II antigen, reacting with haplotypes u and l. The literature reports reactivity with Lewis, Wistar and AO strain rats but not BN, DA or PVG/c strains. This antibody is useful for distinguishing RT1B positive cells from different rat strains, e.g. for recognising cells of donor origin in bone marrow reconstituted radiation chimaeras.</p> <p>The major histocompatibility complex (MHC) is a cluster of genes that are important in the immune response to infections. In rats, this complex is referred to as the RT1 region. In mice, this complex is referred to as the H-2 region.</p> <p>Mouse anti Rat MHC Class II RT1Bu/L antibody, clone OX-3 also cross reacts with mouse strains of the H-2 haplotypes b and s. Analysis of recombinant mouse strains has mapped the OX-3 determinant to the H-2I-A region.</p> <p>This product is routinely tested in flow cytometry on Lewis rat splenocytes.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.
References	<ol style="list-style-type: none"> McMaster, W.R. & Williams, A.F. (1979) Identification of Ia glycoproteins in rat thymus and purification from rat spleen. Eur J Immunol. 9 (6): 426-33. McMaster, W.R. & Williams, A.F. (1979) Monoclonal antibodies to Ia antigens from rat thymus: cross reactions with mouse and human and use in purification of rat Ia glycoproteins. Immunol Rev. 47: 117-37. Barclay, A.N. & Mayrhofer, G. (1981) Bone marrow origin of Ia-positive cells in the medulla rat thymus. J Exp Med. 153 (6): 1666-71. Zhang, J. <i>et al.</i> (1997) Expression of major histocompatibility complex molecules in rodent retina. Immunohistochemical study. Invest Ophthalmol Vis Sci. 38 (9): 1848-57. Hahm, K.B. <i>et al.</i> (2000) Loss of TGF-beta signaling contributes to autoimmune pancreatitis. J Clin Invest. 105 (8): 1057-65. Wu, S.Y. <i>et al.</i> (2016) Estrogen ameliorates microglial activation by inhibiting the Kir2.1 inward-rectifier K(+) channel. Sci Rep. 6: 22864. Fisher, R.A. <i>et al.</i> (1996) Induction of long-term graft tolerance and donor/recipient chimerism. J Surg Res. 60 (1): 181-5. Keller, R. <i>et al.</i> (1988) Modulation of major histocompatibility complex (MHC) expression by interferons and microbial agents. Independent regulation of MHC class II expression and induction of tumoricidal activity in bone marrow-derived mononuclear

- phagocytes. [Scand J Immunol. 28 \(1\): 113-21.](#)
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11. Reutzel-Selke A *et al.* (2003) Short-term immunosuppressive treatment of the donor ameliorates consequences of ischemia/ reperfusion injury and long-term graft function in renal allografts from older donors. [Transplantation. 75 \(11\): 1786-92.](#)
12. Heidenhain, C. *et al.* (2003) The impact of immune-activating processes following transplantation on chronic allograft nephropathy. [Kidney Int. 64 \(3\): 1125-33.](#)
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14. Pascher A *et al.* (2006) Rat cytomegalovirus infection interferes with anti-CD4 mAb-(RIB 5/2) mediated tolerance and induces chronic allograft damage. [Am J Transplant. 6 \(9\): 2035-45.](#)
15. Hartmann CB *et al.* (2005) Immunotoxicity of gallium arsenide on antigen presentation: comparative study of intratracheal and intraperitoneal exposure routes. [J Immunotoxicol. 2 \(1\): 1-9.](#)
16. Lima, R.R. *et al.* (2022) Inflammatory Response and Secondary White Matter Damage to the Corpus Callosum after Focal Striatal Stroke in Rats. [Int J Mol Sci. 23 \(6\)Mar 16 \[Epub ahead of print\].](#)
17. Duhalde Vega, M *et al.* (2022) PD-1/PD-L1 blockade abrogates a dysfunctional innate-adaptive immune axis in critical β -coronavirus disease. [Sci Adv. 8 \(38\): eabn6545.](#)

Further Reading

1. Barclay, A.N. (1981) The localization of populations of lymphocytes defined by monoclonal antibodies in rat lymphoid tissues. [Immunology. 42 \(4\): 593-600.](#)

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.

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

Health And Safety Information

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA45FT>
10041

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:FITC \(MCA1209F\)](#)

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

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