Datasheet: MCA2260P BATCH NUMBER 158873

Description:	RAT ANTI RITUXIMAB:HRP
Specificity:	RITUXIMAB
Other names:	MabThera , Rituxan
Format:	HRP
Product Type:	Monoclonal Antibody
Clone:	MB2A4
lsotype:	lgG2a
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 <u>www.bio-rad-antibodies.com/protocols</u> .					
		Yes	No	Not Determined	Suggested Dilution	
	ELISA				1/20000 - 1/200000	
	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					
Product Form	Purified IgG conjugated to Horseradish Peroxidase (HRP) - liquid					
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant					
Buffer Solution	Phosphate buffered salin	e				
Preservative Stabilisers	0.01% Thiomersal					
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml					
Immunogen	F(ab) ₂ fragment of Rituxi	mab				
Fusion Partners	Spleen cells from immunised rats were fused with cells of the NS-1 mouse myeloma cell line					

Specificity	Rat Anti-Rituximab Antibody, clone MB2A4, is an anti-idiotypic antibody that recognizes the monoclonal antibody drug rituximab. The antibody can be used to measure the levels of rituximab and biosimilar products in bioanalytical assays. Rat Anti-Rituximab Antibody also recognizes ocrelizumab, a second-generation humanized anti-CD20 antibody that binds to an epitope on CD20 that is identical or overlapping with the rituximab epitope. Clone MB2A4 has been used in ELISA to monitor the levels of rituximab in patient serum following therapy (Cragg <i>et al.</i> 2004 and Hampson <i>et al.</i> 2010). Clone MB2A4 has been used to detect rituximab bound to the surface of the Raji B cell line, however detection of rituximab bound in vivo to B-CLL cells has not been demonstrated. It is possible that complement deposition on rituximab opsonised cells inhibits binding of the Anti-Rituximab Antibody to cell bound rituximab (Beum <i>et al.</i> 2004). Inhibition experiments carried out with Daudi cells demonstrated that this antibody is inhibitory at a ratio of 5:1 antibody:rituximab, but does not inhibit rituximab binding to CD20 at a ratio of 1:1.
	non-Hodgkin's lymphoma, chronic lymphocytic leukemia and rheumatoid arthritis. The antibody is specific for the cell surface protein CD20, which is widely expressed on B cells. Through three different mechanisms of action it eliminates B cells from the body, enabling the development of a new population of healthy B cells.
ELISA	This product may be used in a direct ELISA or as a detection reagent in a sandwich ELISA together with <u>HCA186</u> as the capture reagent. Protocol: <u>PK bridging ELISA to</u> <u>measure free drug</u>
References	 Cragg, M. S. <i>et al.</i> (2004) A new anti-idiotype antibody capable of binding rituximab on the surface of lymphoma cells. <u>Blood. 104:2540-2</u> Cragg, M.S. <i>et al.</i> (2004) Apparent modulation of CD20 by rituximab: an alternative explanation. <u>Blood. 103 (10): 3989-90; author reply 3990-1.</u> Pers, J.O. <i>et al.</i> (2007) BAFF-modulated repopulation of B lymphocytes in the blood and salivary glands of rituximab-treated patients with Sjögren's syndrome. <u>Arthritis Rheum. 56: 1464-77.</u> Hampson, G. <i>et al.</i> (2010) Validation of an ELISA for the determination of rituximab pharmacokinetics in clinical trials subjects. <u>J Immunol Methods. 360 (1-2): 30-8.</u> Blasco, H. <i>et al.</i> (2007) Evaluation of a peptide ELISA for the detection of rituximab in serum. <u>J Immunol Methods.325: 127-39.</u> Daydé, D. <i>et al.</i> (2009) Tumor burden influences exposure and response to rituximab: pharmacokinetic-pharmacodynamic modeling using a syngeneic bioluminescent murine model expressing human CD20. <u>Blood. 113: 3765-72.</u> Aung, T. <i>et al.</i> (2011) Exosomal evasion of humoral immunotherapy in aggressive B-cell lymphoma modulated by ATP-binding cassette transporter A3. <u>Proc Natl Acad Sci U S A.</u> <u>108: 15336-41.</u> Schmidt, E. <i>et al.</i> (2009) Immunogenicity of rituximab in patients with severe

	 pemphigus. <u>Clin Immunol. 132: 334-41.</u> 9. McDonald, V. <i>et al.</i> (2010) Rituximab pharmacokinetics during the management of acute idiopathic thrombotic thrombocytopenic purpura. <u>J Thromb Haemost. 8: 1201-8.</u> 10. Kagan, L. <i>et al.</i> (2012) Subcutaneous Absorption of Monoclonal Antibodies: Role of Dose, Site of Injection, and Injection Volume on Rituximab Pharmacokinetics in Rats. <u>Pharm Res. 29: 490-499</u> 11. Kagan, L. and Mager, D.E. (2013) Mechanisms of subcutaneous absorption of rituximab in rats. <u>Drug Metab Dispos. 41: 248-55.</u> 12. Liu, X.F. <i>et al.</i> (2012) Validation of a Gyrolab™ assay for quantification of rituximab in human serum. <u>J Pharmacol Toxicol Methods. 65: 107-14.</u> 13. Kagan, L. <i>et al.</i> (2014) Interspecies pharmacokinetic modeling of subcutaneous absorption of rituximab in mice and rats. <u>Pharm Res. 31: 3265-73.</u> 14. Blasco, H. <i>et al.</i> (2009) Pharmacokinetics of rituximab associated with CHOP chemotherapy in B-cell non-Hodgkin lymphoma. <u>Fundam Clin Pharmacol. 23: 601-8.</u>
	 radioimmunotherapy consolidation is effective and well tolerated in relapsed follicular lymphoma: 5-year results from a UK National Cancer Research Institute Lymphoma Group study. <u>Br J Haematol. 173 (2): 274-82.</u> Vacher P. et al. (2015) Localized Store-Operated Calcium Influx Represses
	CD95-Dependent Apoptotic Effects of Rituximab in Non-Hodgkin B Lymphomas. J Immunol. pii: 1402942.
	 17. Komori, M. <i>et al.</i> (2016) Insufficient disease inhibition by intrathecal rituximab in progressive multiple sclerosis. <u>Ann Clin Transl Neurol. 3 (3): 166-79.</u> 18. Kashiwagi, N. <i>et al.</i> (2017) Method for measuring anti-drug antibody <u>US Patent</u> <u>Application US20170315118A1</u>
	19. Lioger, B. <i>et al.</i> (2017) Antigenic burden and serum IgG concentrations influence rituximab pharmacokinetics in rheumatoid arthritis patients. <u>Br J Clin Pharmacol. 83 (8):</u> <u>1773-81.</u>
	20. Zhang, Y. <i>et al.</i> (2013) Stability of stock and diluted rituximab. <u>Am J Health Syst</u> <u>Pharm. 70 (5): 436-8.</u>
	21. Desbois, A.C. <i>et al.</i> (2020) Rituximab-associated Vasculitis Flare: Incidence, Predictors, and Outcome. <u>J Rheumatol. 47 (6): 896-902.</u>
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.
Guarantee	12 months from date of despatch
Acknowledgements	Rituxan® is a registered trademark of Biogen Idec/Genentech in the USA. MabThera ® is a registered trademark of Roche in Europe
Health And Safety Information	Material Safety Datasheet documentation #10094 available at: https://www.bio-rad-antibodies.com/SDS/MCA2260P

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Related Products

Recommended Useful Reagents

HUMAN ANTI RITUXIMAB (HCA061) HUMAN ANTI RITUXIMAB (HCA062) HUMAN ANTI RITUXIMAB (HCA186)

North & South	Tel: +1 800 265 7376	Worldwide	Tel: +44 (0)1865 852 700	Europe	Tel: +49 (0) 89 8090 95 21
America	Fax: +1 919 878 3751		Fax: +44 (0)1865 852 739		Fax: +49 (0) 89 8090 95 50
	Email: antibody_sales_us@bio-rad	.com	Email: antibody_sales_uk@bio-rad	.com	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 'M387633:210706'

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