

Datasheet: MCA2260P

**BATCH NUMBER 158873**

<b>Description:</b>	RAT ANTI RITUXIMAB:HRP
<b>Specificity:</b>	RITUXIMAB
<b>Other names:</b>	MabThera , Rituxan
<b>Format:</b>	HRP
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	MB2A4
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	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](http://www.bio-rad-antibodies.com/protocols).

	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

<b>Product Form</b>	Purified IgG conjugated to Horseradish Peroxidase (HRP) - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.01% Thiomersal
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	F(ab) <sub>2</sub> fragment of Rituximab
<b>Fusion Partners</b>	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 \*et al.\* 2004](#) and [Hampson \*et al.\* 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 \*et al.\* 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.

Rituximab (reference product branded as Rituxan) is a chimeric mouse/human monoclonal antibody approved for the treatment of certain autoimmune diseases and cancer, including 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.

[View a summary of all Anti-Rituximab Antibodies.](#)

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## ELISA

This product may be used in a direct ELISA or as a detection reagent in a sandwich ELISA together with [HCA186](#) as the capture reagent. Protocol: [PK bridging ELISA to measure free drug](#)

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## References

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2. Cragg, M.S. *et al.* (2004) Apparent modulation of CD20 by rituximab: an alternative explanation. [Blood. 103 \(10\): 3989-90; author reply 3990-1.](#)
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4. Hampson, G. *et al.* (2010) Validation of an ELISA for the determination of rituximab pharmacokinetics in clinical trials subjects. [J Immunol Methods. 360 \(1-2\): 30-8.](#)
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7. Aung, T. *et al.* (2011) Exosomal evasion of humoral immunotherapy in aggressive B-cell lymphoma modulated by ATP-binding cassette transporter A3. [Proc Natl Acad Sci U S A. 108: 15336-41.](#)
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  16. 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. *et al.* (2016) Insufficient disease inhibition by intrathecal rituximab in progressive multiple sclerosis. [Ann Clin Transl Neurol. 3 \(3\): 166-79.](#)
  18. Kashiwagi, N. *et al.* (2017) Method for measuring anti-drug antibody [US Patent Application US20170315118A1](#)
  19. Lioger, B. *et al.* (2017) Antigenic burden and serum IgG concentrations influence rituximab pharmacokinetics in rheumatoid arthritis patients. [Br J Clin Pharmacol. 83 \(8\): 1773-81.](#)
  20. Zhang, Y. *et al.* (2013) Stability of stock and diluted rituximab. [Am J Health Syst Pharm. 70 \(5\): 436-8.](#)
  21. Desbois, A.C. *et al.* (2020) Rituximab-associated Vasculitis Flare: Incidence, Predictors, and Outcome. [J Rheumatol. 47 \(6\): 896-902.](#)

<b>Storage</b>	<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>
<b>Guarantee</b>	12 months from date of despatch
<b>Acknowledgements</b>	Rituxan® is a registered trademark of Biogen Idec/Genentech in the USA. MabThera® is a registered trademark of Roche in Europe
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10094 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA2260P">https://www.bio-rad-antibodies.com/SDS/MCA2260P</a> 10094

## Related Products

### Recommended Useful Reagents

[HUMAN ANTI RITUXIMAB \(HCA061\)](#)

[HUMAN ANTI RITUXIMAB \(HCA062\)](#)

[HUMAN ANTI RITUXIMAB \(HCA186\)](#)

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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://bio-rad-antibodies.com/datasheets)

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