

## Datasheet: MCA1642

**BATCH NUMBER 167666**

<b>Description:</b>	RAT ANTI HUMAN CD52
<b>Specificity:</b>	CD52
<b>Other names:</b>	CAMPATH-1
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	YTH34.5
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	0.2 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
Flow Cytometry	▪			1/20
Immunohistology - Frozen	▪			1/20
Immunohistology - Paraffin	▪			1/20 - 1/40
Immunohistology - Resin	▪			
ELISA	▪			
Immunoprecipitation	▪			
Western Blotting	▪			
Cytotoxic Assays	▪			50ug/ml (Use human serum as complement source)

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

Human

### Species Cross Reactivity

Reacts with: Rhesus Monkey

**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.

<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	<0.1% sodium azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Human lymphocytes
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P31358</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">1043</a>    CD52    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	CDW52, HE5
<b>RRID</b>	AB_321470
<b>Specificity</b>	<p><b>Rat anti Human CD52 antibody, clone YTH34.5</b> recognizes the human CD52 antigen, also known as CAMPATH-1. The CD52 antigen is a remarkably small but heavily glycosylated peptide attached to the cell surface membrane via a GPI link (<a href="#">Xia et al. 1991</a>).</p> <p>The apparent molecular mass of the native antigen on SDS-PAGE is 25-29 kDa, considerably reduced following N-glycanase treatment (<a href="#">Rowan et al. 1998</a>).</p> <p>CD52 is expressed at high density by lymphocytes, monocytes, eosinophils, thymocytes and macrophages. It is expressed by most lymphoid derived malignancies, although expression on myeloma cells is variable.</p> <p>Humanized versions of CAMPATH-1 specific antibodies are currently in clinical trials for the treatment of a range of lymphoid malignancies (<a href="#">Dearden et al. 2002</a>; <a href="#">Pettitt et al. 2012</a>).</p>
<b>Flow Cytometry</b>	use 10µl of the suggested working dilution to label 1 x 10 <sup>6</sup> cells in 100µl
<b>Histology Positive Control Tissue</b>	Tonsil
<b>References</b>	1. Klanginsirikul, P. <i>et al.</i> (2002) Campath-1G causes rapid depletion of circulating host dendritic cells (DCs) before allogeneic transplantation but does not delay donor DC

- reconstitution. [Blood. 99: 2586-91.](#)
2. Ratzinger, G. *et al.* (2003) Differential CD52 expression by distinct myeloid dendritic cell subsets: implications for alemtuzumab activity at the level of antigen presentation in allogeneic graft-host interactions in transplantation. [Blood. 101: 1422-9.](#)
  3. Zand, M.S. *et al.* (2005) A renewable source of donor cells for repetitive monitoring of T- and B-cell alloreactivity. [Am J Transplant. 5: 76-86.](#)
  4. Westermann, J. *et al.* (2005) CD52 is not a promising immunotherapy target for most patients with multiple myeloma. [Int J Hematol. 82 \(3\): 248-50.](#)
  5. Gopcsa, L. *et al.* (2005) Extensive flow cytometric characterization of plasmacytoid dendritic cell leukemia cells. [Eur J Haematol. 75: 346-51.](#)
  6. Rodig SJ *et al.* (2006) Heterogeneous CD52 expression among hematologic neoplasms: implications for the use of alemtuzumab (CAMPATH-1H). [Clin Cancer Res. 12 \(23\): 7174-9.](#)
  7. Golay, J. *et al.* (2006) The sensitivity of acute lymphoblastic leukemia cells carrying the t(12;21) translocation to campath-1H-mediated cell lysis. [Haematologica. 91: 322-30.](#)
  8. Miles, R.R. *et al.* (2007) Immunophenotypic identification of possible therapeutic targets in paediatric non-Hodgkin lymphomas: a children's oncology group report. [Br J Haematol. 138: 506-12.](#)
  9. Chang, S.T. *et al.* (2007) CD52 expression in non-mycotic T- and NK/T-cell lymphomas. [Leuk Lymphoma. 48: 117-21.](#)
  10. Piccaluga, P.P. *et al.* (2007) Expression of CD52 in peripheral T-cell lymphoma. [Haematologica. 92: 566-7.](#)
  11. Reimer, P. *et al.* (2009) Autologous stem-cell transplantation as first-line therapy in peripheral T-cell lymphomas: results of a prospective multicenter study. [J Clin Oncol. 27: 106-13.](#)
  12. Hu, Y. *et al.* (2009) Investigation of the mechanism of action of alemtuzumab in a human CD52 transgenic mouse model. [Immunology. 128: 260-70.](#)
  13. Rizzo, K. *et al.* (2009) Novel CD19 expression in a peripheral T cell lymphoma: A flow cytometry case report with morphologic correlation. [Cytometry B Clin Cytom. 76: 142-9.](#)
  14. Haniffa, M. *et al.* (2009) Differential rates of replacement of human dermal dendritic cells and macrophages during hematopoietic stem cell transplantation. [J Exp Med. 206: 371-85.](#)
  15. Bisig, B. *et al.* (2013) CD30-positive peripheral T-cell lymphomas share molecular and phenotypic features. [Haematologica. 98 \(8\): 1250-8.](#)
  16. Paulus, A. *et al.* (2015) Immunophenotyping of Waldenströms macroglobulinemia cell lines reveals distinct patterns of surface antigen expression: potential biological and therapeutic implications. [PLoS One. 10 \(4\): e0122338.](#)
  17. Hotta, R. *et al.* (2016) CD52-Negative NK Cells Are Abundant in the Liver and Less Susceptible to Alemtuzumab Treatment. [PLoS One. 11 \(8\): e0161618.](#)
  18. Buckstein, R. *et al.* (2016) Alemtuzumab and CHOP Chemotherapy for the Treatment of Aggressive Histology Peripheral T Cell Lymphomas: A Multi-Center Phase I Study. [Clin Lymphoma Myeloma Leuk. 16 \(1\): 18-28.e4.](#)
  19. Craig, J.W. *et al.* (2018) Assessment of CD52 expression in "double-hit" and "double-expressor" lymphomas: Implications for clinical trial eligibility. [PLoS One. 13 \(7\): e0199708.](#)
  20. Suwandi, J.S. *et al.* (2020) Multidimensional analyses of proinsulin peptide-specific regulatory T cells induced by tolerogenic dendritic cells. [J Autoimmun. 107: 102361.](#)

<b>Further Reading</b>	<p>1. Salisbury JR <i>et al.</i> (1994) Immunohistochemical analysis of CDw52 antigen expression in non-Hodgkin's lymphomas. <a href="#">J Clin Pathol. 47 (4): 313-7.</a></p> <p>2. Hale G <i>et al.</i> (1998) Improving the outcome of bone marrow transplantation by using CD52 monoclonal antibodies to prevent graft-versus-host disease and graft rejection. <a href="#">Blood. 92 (12): 4581-90.</a></p>
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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.

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

**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1642>  
10040

**Regulatory** For research purposes only

## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight®800</a>
Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>
Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®800</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos.</a> , <a href="#">Biotin</a>

### Recommended Negative Controls

[RAT IgG2b NEGATIVE CONTROL \(MCA6006GA\)](#)

### Recommended Useful Reagents

[HUMAN ANTI ALEMTUZUMAB \(HCA174\)](#)

[HUMAN ANTI ALEMTUZUMAB \(HCA175\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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