# Datasheet: MCA1642FT

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| **Description:** | RAT ANTI HUMAN CD52:FITC |
| **Specificity:** | CD52 |
| **Other names:** | CAMPATH-1 |
| **Format:** | FITC |
| **Product Type:** | Monoclonal Antibody |
| **Clone:** | YTH34.5 |
| **Isotype:** | IgG2b |
| **Quantity:** | 25 µg |

## 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 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**

Human

**Species Cross Reactivity**

Reacts with: Rhesus Monkey
**N.B.** Antibody reactivity and working conditions may vary between species.

**Product Form**

Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

**Max Ex/Em**

| Fluorophore | Excitation Max (nm) | Emission Max (nm) |
|---|---|---|
| FITC | 490 | 525 |

**Preparation**

Purified IgG prepared by affinity chromatography on Protein A 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**

Human lymphocytes.

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| **External Database Links** | **UniProt:**<br>P31358 Related reagents<br><br>**Entrez Gene:**<br>1043 CD52 Related reagents |
| **Synonyms** | CDW52, HE5 |
| **Specificity** | **Rat anti Human CD52 antibody, clone YTH34.5** reacts with 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 (Xia *et al.* 1991).<br><br>The apparent molecular mass of the native antigen on SDS-PAGE is 25-29kDa, considerably reduced following N-glycanase treatment (Rowan *et al.* 1998).<br><br>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.<br><br>Humanised versions of CAMPATH-1 specific antibodies are currently in clinical trials for the treatment of a range of lymphoid malignancies (Dearden *et al.* 2002; Pettitt *et al.* 2012). |
| **Flow Cytometry** | Use 10ul of the suggested working dilution to label 1 x $10^6$ cells in 100ul. |
| **References** | 1. Hale G *et al.* (1998) Improving the outcome of bone marrow transplantation by using CD52 monoclonal antibodies to prevent graft-versus-host disease and graft rejection. Blood. 92 (12): 4581-90.<br>2. Salisbury JR *et al.* (1994) Immunohistochemical analysis of CDw52 antigen expression in non-Hodgkin's lymphomas. J Clin Pathol. 47 (4): 313-7.<br>3. 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.<br>4. 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.<br>5. 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.<br>6. Hu, Y. *et al.* (2009) Investigation of the mechanism of action of alemtuzumab in a human CD52 transgenic mouse model. Immunology. 128: 260-70.<br>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.<br>8. Klangsinsirikul, P. *et al.* (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.<br>9. Piccaluga, P.P. *et al.* (2007) Expression of CD52 in peripheral T-cell lymphoma. Haematologica. 92: 566-7.<br>10. Gopcsa, L. *et al.* (2005) Extensive flow cytometric characterization of plasmacytoid dendritic cell leukemia cells. Eur J Haematol. 75: 346-51.<br>11. Chang, S.T. *et al.* (2007) CD52 expression in non-mycotic T- and NK/T-cell lymphomas. Leuk Lymphoma. 48: 117-21.<br>12. Westermann, J. *et al.* (2005) CD52 is not a promising immunotherapy target for most patients with multiple myeloma. Int J Hematol. 82: 248-50.<br>13. 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.
14. 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.
15. 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.
16. 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.
17. Bisig, B. *et al.* (2013) Molecular and phenotypic features are shared by CD30-positive peripheral T-cell lymphomas Haematologica 98: 1250-8.
18. 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.
19. 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.

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| **Storage** | Store at +4°C or at -20°C if preferred.<br><br>This product should be stored undiluted.<br><br>Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.<br><br>Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use. |
| **Shelf Life** | 18 months from date of despatch. |
| **Health And Safety Information** | Material Safety Datasheet documentation #10041 available at:<br>10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf |
| **Regulatory** | For research purposes only |

# Related Products

## Recommended Negative Controls

RAT IgG2b NEGATIVE CONTROL:FITC (MCA6006F)

## Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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

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