Datasheet: MCA1642AMO

Description:	RAT ANTI HUMAN CD52:Amethyst Orange
Specificity:	CD52
Other names:	CAMPATH-1
Format:	Amethyst Orange
Product Type:	Monoclonal Antibody
Clone:	YTH34.5
Isotype:	IgG2b
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 - 1/5

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.

Product Form

Purified IgG conjugated to Amethyst Orange - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Amethyst Orange	405	540

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 (NaN_3) 1% bovine serum albumin
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml
Immunogen	Human lymphocytes
External Database Links	**UniProt:** P31358 Related reagents **Entrez Gene:** 1043 CD52 Related reagents
Synonyms	CDW52, HE5
Specificity	**Rat anti Human CD52 antibody, clone YTH34.5** 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 (Xia *et al.* 1991). The apparent molecular mass of the native antigen on SDS-PAGE is 25-29 kDa, considerably reduced following N-glycanase treatment (Rowan *et al.* 1998). 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. Humanized 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 10µl of the suggested working dilution to label 1 x 10^6 cells in 100µl
References	1. 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. 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.

Further Reading

1. Salisbury JR *et al.* (1994) Immunohistochemical analysis of CDw52 antigen expression in non-Hodgkin's lymphomas. J Clin Pathol. 47 (4): 313-7.
2. 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.

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/MCA1642AMO 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

RAT IgG2b NEGATIVE CONTROL:Amethyst Orange (MCA6006AMO)

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

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

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