Datasheet: MCA2071A647T

Description:	MOUSE ANTI HUMAN CD80:Alexa Fluor® 647
Specificity:	CD80
Other names:	B7-1
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	MEM-233
Isotype:	IgG1
Quantity:	25 TESTS/0.25ml

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	▪			1/5 - 1/10

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

Product Form

Purified IgG conjugated to Alexa Fluor® 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

Preparation

Purified IgG prepared by affinity chromatography on Protein A

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin

Approx. Protein Concentrations

IgG concentration 0.05 mg/ml

External Database Links

UniProt:
P33681 Related reagents

Entrez Gene:
941 CD80 Related reagents

Synonyms	CD28LG, CD28LG1, LAB7
Specificity	**Mouse anti Human CD80 antibody, clone MEM-233** recognizes human CD80, also known as B7-1, a ~60 kDa type 1 trans-membrane protein expressed of macrophages, dendritic cells (Munro *et al.* 1994) and activated B-cells (Ranheim *et al.* 1993) CD80 is a member of the immunoglobulin superfamily having an extracellular domain bearing both a single Ig-v-like domain, a single Ig-c-like domain, a transmembrane sequence and a short cytoplasmic domain. Although the predicted molecular weight for human CD80 is ~33 kDa, the presence of multiple (8) potential N-glycosylation sites (Chen *et al.* 1998) results in a migration corresponding to ~60 kDa. Human CD80 along with CD86 act as co-stimulatory molecules and are both ligands for CD28 and CTLA-4 (Azuma *et al.* 1993) involved in T cell activation and proliferation (Vasu *et al.* 2003). Although CD80 binds to the same receptors as CD86 it displays quite different characteristics in its avidity and binding kinetics (van der Merwe *et al.* 1997). Site mutagenesis studies indicate residues in both the Ig-v-like and Ig-c-like domains of CD80 are crucial for the interaction with it's receptors CTLA-4 and CD28 (Peach *et al.* 1995). Mouse anti human CD80 antibody, clone MEM-233 binds to residues within the Ig-v-like domain of human CD80 as shown by domain switching studies (Vasu *et al.* 2003). Functional studies using Mouse anti Human CD80, clone MEM-233 in combination with Mouse anti Human CD86, clone Bu63 (MCA1118) suggest that clone MEM-233 is able to block binding of human CD80 with it's cognate ligands CD28 and CTLA-4 (Morbach *et al.* 2011).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells or 100ul whole blood.
References	1. Zhan, H. *et al.* (2003) The immunomodulatory role of human conjunctival epithelial cells. Invest Ophthalmol Vis Sci. 44 (9): 3906-10. 2. Angel, C.E. *et al.* (2006) Cutting edge: CD1a+ antigen-presenting cells in human dermis respond rapidly to CCR7 ligands. J Immunol. 176 (10): 5730-4. 3. Daubenberger, C.A. *et al.* (2007) Flow cytometric analysis on cross-reactivity of human-specific CD monoclonal antibodies with splenocytes of Aotus nancymaae, a non-human primate model for biomedical research. Vet Immunol Immunopathol. 119 (1-2): 14-20. 4. Hovden, A.O. *et al.* (2011) Maturation of monocyte derived dendritic cells with OK432 boosts IL-12p70 secretion and conveys strong T-cell responses. BMC Immunol. 12: 2. 5. John, J. *et al.* (2010) Differential effects of Paclitaxel on dendritic cell function. BMC Immunol. 11: 14. 6. Newman, K.C. *et al.* (2006) Cross-talk with myeloid accessory cells regulates human natural killer cell interferon-gamma responses to malaria. PLoS Pathog. 2: e118. 7. Piconi, S. *et al.* (2010) Immunological effects of sublingual immunotherapy: clinical efficacy is associated with modulation of programmed cell death ligand 1, IL-10, and IgG4. J Immunol. 185: 7723-30. 8. Scheinecker, C. *et al.* (1998) Initiation of the autologous mixed lymphocyte reaction requires the expression of costimulatory molecules B7-1 and B7-2 on human peripheral blood dendritic cells. J Immunol. 161: 3966-73. 9. Tan, P.H. *et al.* (2005) Modulation of human dendritic-cell function following transduction with viral vectors: implications for gene therapy. Blood. 105: 3824-32. 10. Trojan, J. *et al.* (2010) Antisense anti IGF-I cellular therapy of malignant tumours: immune

response in cancer patients. Biomed Pharmacother. 64: 576-8.
11. Huxley, P. *et al.* (2004) High-affinity small molecule inhibitors of T cell costimulation: compounds for immunotherapy. Chem Biol. 11: 1651-8.
12. Tan, P.H. *et al.* (2004) Phenotypic and functional differences between human saphenous vein (HSVEC) and umbilical vein (HUVEC) endothelial cells. Atherosclerosis. 173: 171-83.
13. Silk, K.M. *et al.* (2012) Cross-presentation of tumour antigens by human induced pluripotent stem cell-derived CD141+XCR1+ dendritic cells Gene Ther. 19: 1035-40.
14. Scott-Taylor, T.H. *et al.* (2017) Enhanced formation of giant cells in common variable immunodeficiency: Relation to granulomatous disease. Clin Immunol. 175: 1-9.

Storage	Store at +4^{o}C or at -20^{o}C if preferred. This product should be stored undiluted. Storage in frost free freezers is not recommended. This product is photosensitive and should be protected from light. 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.
Acknowledgements	This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 (MCA928A647)

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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