Datasheet: MCA2071A647

BATCH NUMBER 1803

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:	100 TESTS/1ml

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
RRID	AB_566899
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.
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6. 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.
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. 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.
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. Silk, K.M. *et al.* (2012) Rapamycin conditioning of dendritic cells differentiated from human ES cells promotes a tolerogenic phenotype. J Biomed Biotechnol. 2012: 172420.
13. 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.
14. Demmers, M.W. *et al.* (2013) Differential effects of activated human renal epithelial cells on T-cell migration. PLoS One. 8 (5): e64916.

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.

Guarantee

12 months from date of despatch

Acknowledgements

Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2071A647 10041
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

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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