

## Datasheet: MCA2071A647

<b>Description:</b>	MOUSE ANTI HUMAN CD80:Alexa Fluor® 647
<b>Specificity:</b>	CD80
<b>Other names:</b>	B7-1
<b>Format:</b>	ALEXA FLUOR® 647
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	MEM-233
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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.

<b>Target Species</b>	Human		
<b>Product Form</b>	Purified IgG conjugated to Alexa Fluor® 647 - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	Alexa Fluor®647	650	665
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A		
<b>Buffer Solution</b>	Phosphate buffered saline		
<b>Preservative</b>	0.09% Sodium Azide		
<b>Stabilisers</b>	1% Bovine Serum Albumin		
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml		

### External Database Links

#### UniProt:

[P33681](#) [Related reagents](#)

#### Entrez Gene:

[941](#) CD80 [Related reagents](#)

<b>Synonyms</b>	CD28LG, CD28LG1, LAB7
<b>Specificity</b>	<p><b>Mouse anti Human CD80 antibody, clone MEM-233</b> recognizes human CD80, also known as B7-1, a ~60 kDa type 1 trans-membrane protein expressed of macrophages, dendritic cells (<a href="#">Munro et al. 1994</a>) and activated B-cells (<a href="#">Ranheim et al. 1993</a>)</p> <p>CD80 is a member of the immunoglobulin superfamily having an extracellular domain bearing both a single <a href="#">Ig-v-like</a> domain, a single <a href="#">Ig-c-like</a> 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 (<a href="#">Chen et al. 1998</a>) results in a migration corresponding to ~60 kDa.</p> <p>Human CD80 along with CD86 act as co-stimulatory molecules and are both ligands for CD28 and CTLA-4 (<a href="#">Azuma et al. 1993</a>) involved in T cell activation and proliferation (<a href="#">Vasu et al. 2003</a>). Although CD80 binds to the same receptors as CD86 it displays quite different characteristics in its avidity and binding kinetics (<a href="#">van der Merwe et al. 1997</a>).</p> <p>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 (<a href="#">Peach et al. 1995</a>).</p> <p>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 (<a href="#">Vasu et al. 2003</a>).</p> <p>Functional studies using Mouse anti Human CD80, clone MEM-233 in combination with Mouse anti Human CD86, clone Bu63 (<a href="#">MCA1118</a>) suggest that clone MEM-233 is able to block binding of human CD80 with it's cognate ligands CD28 and CTLA-4 (<a href="#">Morbach et al. 2011</a>).</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells or 100ul whole blood.
<b>References</b>	<ol style="list-style-type: none"> <li>Zhan, H. <i>et al.</i> (2003) The immunomodulatory role of human conjunctival epithelial cells. <a href="#">Invest Ophthalmol Vis Sci. 44 (9): 3906-10.</a></li> <li>Angel, C.E. <i>et al.</i> (2006) Cutting edge: CD1a+ antigen-presenting cells in human dermis respond rapidly to CCR7 ligands. <a href="#">J Immunol. 176 (10): 5730-4.</a></li> <li>Daubenberger, C.A. <i>et al.</i> (2007) Flow cytometric analysis on cross-reactivity of human-specific CD monoclonal antibodies with splenocytes of <i>Aotus nancymaae</i>, a non-human primate model for biomedical research. <a href="#">Vet Immunol Immunopathol. 119 (1-2): 14-20.</a></li> <li>Hovden, A.O. <i>et al.</i> (2011) Maturation of monocyte derived dendritic cells with OK432 boosts IL-12p70 secretion and conveys strong T-cell responses. <a href="#">BMC Immunol. 12: 2.</a></li> <li>John, J. <i>et al.</i> (2010) Differential effects of Paclitaxel on dendritic cell function. <a href="#">BMC Immunol. 11: 14.</a></li> <li>Newman, K.C. <i>et al.</i> (2006) Cross-talk with myeloid accessory cells regulates human natural killer cell interferon-gamma responses to malaria. <a href="#">PLoS Pathog. 2: e118.</a></li> <li>Piconi, S. <i>et al.</i> (2010) Immunological effects of sublingual immunotherapy: clinical efficacy is associated with modulation of programmed cell death ligand 1, IL-10, and IgG4. <a href="#">J Immunol. 185: 7723-30.</a></li> <li>Scheinecker, C. <i>et al.</i> (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. <a href="#">J Immunol. 161: 3966-73.</a></li> <li>Tan, P.H. <i>et al.</i> (2005) Modulation of human dendritic-cell function following transduction with viral vectors: implications for gene therapy. <a href="#">Blood. 105: 3824-32.</a></li> <li>Trojan, J. <i>et al.</i> (2010) Antisense anti IGF-I cellular therapy of malignant tumours: immune</li> </ol>

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.](#)

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**Storage**

Store at +4°C or at -20°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.

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**Shelf Life**

18 months from date of despatch.

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**Acknowledgements**

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**Health And Safety Information**

Material Safety Datasheet documentation #10041 available at: 10041: <https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf>

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA928A647\)](#)

### Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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