

Datasheet: MCA2071F

Description:	MOUSE ANTI HUMAN CD80:FITC
Specificity:	CD80
Other names:	B7-1
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	MEM-233
Isotype:	IgG1
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

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		
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	0.09% sodium azide (NaN ₃)		
Stabilisers	1% bovine serum albumin		
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml		

External Database
Links

UniProt:

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

Entrez Gene:

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

Synonyms CD28LG, CD28LG1, LAB7

RRID AB_324403

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](#)).

Mutagenesis indicates 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 assays ([Vasu et al. 2003](#)).

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 10µl of the suggested working dilution to label 10⁶ cells or 100µl 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. 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.](#)
3. Huxley, P. *et al.* (2004) High-affinity small molecule inhibitors of T cell costimulation: compounds for immunotherapy. [Chem Biol. 11: 1651-8.](#)
4. 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.](#)
5. 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.](#)

6. 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.](#)
7. Trojan, J. *et al.* (2010) Antisense anti IGF-I cellular therapy of malignant tumours: immune response in cancer patients. [Biomed Pharmacother. 64: 576-8.](#)
8. 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.](#)
9. John, J. *et al.* (2010) Differential effects of Paclitaxel on dendritic cell function. [BMC Immunol. 11: 14.](#)
10. 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.](#)
11. 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.](#)
12. 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.](#)
13. Demmers, M.W. *et al.* (2013) Differential effects of activated human renal epithelial cells on T-cell migration. [PLoS One. 8 \(5\): e64916.](#)
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 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/MCA2071F>
10041

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:FITC \(MCA928F\)](#)

Recommended Useful Reagents

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

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

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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