

Technical Data Sheet

Purified NA/LE Rat Anti-Mouse CD80

Product Information

Material Number:	553367
Alternate Name:	B7-1
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	1G10/B7
Immunogen:	Activated Mouse 5C2 Cells
Isotype:	Rat IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2 μ m sterile filtered. Endotoxin level is ≤ 0.01 EU/ μ g (≤ 0.001 ng/ μ g) of protein as determined by the LAL assay.

Description

The 1G10 antibody reacts with CD80 (B7-1). This member of the Ig superfamily, along with CD86 (B7-2), participates in T-cell costimulation *via* interactions with CD28 and CD152 (CTLA-4). CD80 is constitutively expressed on dendritic cells, monocytes, and peritoneal macrophages; and it is inducible on B cells by various means, including activation by LPS, IL-4, and the cross-linking of surface Ig. Expression of CD80 is greatly enhanced on splenic B cells following activation by LPS, with peak expression occurring between 48 and 72 hours. It has been reported that activation of purified B cells with LPS can induce CD80 expression in as few as 18 hours. The 1G10 antibody blocks binding of CTLA-4-Ig to CD80, but it does not block stimulation of T cells by natural antigen-presenting cells. Preliminary evidence has shown that mAb 16-10A1 (Cat. no. 553766) blocks binding of 1G10 mAb to CD80, indicating that the two antibodies may recognize overlapping epitopes on the CD80 molecule. However, the 16-10A1 mAb recognizes an upregulated antigen on UV-irradiated P815 mastocytoma cells which is not detected by the 1G10 mAb; the cause and significance of this differential reactivity of the two anti-CD80 antibodies is unknown.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

Flow cytometry	Routinely Tested
Blocking	Reported

Recommended Assay Procedure:

Since this antigen is expressed at low density, it may be desirable to amplify staining by using a biotinylated second-step antibody followed by a "bright" third-step reagent, such as Streptavidin-PE (Cat. no. 554061). Other reported applications include blocking of ligand binding.

Suggested Companion Products

Catalog Number	Name	Size	Clone
553926	Purified NA/LE Rat IgG2a κ Isotype Control	0.5 mg	R35-95
554061	PE Streptavidin	0.5 mg	(none)
554014	Biotin Goat Anti-Rat Ig	0.5 mg	Polyclonal

Product Notices

- Since applications vary, each investigator should titrate the reagent to obtain optimal results.
- Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Bluestone JA. New perspectives of CD28-B7-mediated T cell costimulation. *Immunity*. 1995; 2(6):555-559. (Clone-specific: (Co)-stimulation)
 Boussiotis VA, Gribben JG, Freeman GJ, Nadler LM. Blockade of the CD28 co-stimulatory pathway: a means to induce tolerance. *Curr Opin Immunol*. 1994; 6(5):797-807. (Clone-specific: (Co)-stimulation)
 Hathcock KS, Laszlo G, Pucillo C, Linsley P, Hodes RJ. Comparative analysis of B7-1 and B7-2 costimulatory ligands: expression and function. *J Exp Med*. 1994; 180(2):631-640. (Clone-specific: Blocking, Stimulation)

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Nabavi N, Freeman GJ, Gault A, Godfrey D, Nadler LM, Glimcher LH. Signalling through the MHC class II cytoplasmic domain is required for antigen presentation and induces B7 expression. *Nature*. 1992; 360(6401):266-268. (Immunogen: Blocking)
Sojka DK, Donepudi M, Bluestone JA, Mokyr MB. Melphalan and other anticancer modalities up-regulate B7-1 gene expression in tumor cells. *J Immunol*. 2000; 164(12):6230-6236. (Biology)
Watts, TH. Personal Communication. . (Biology)

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