Technical Data Sheet

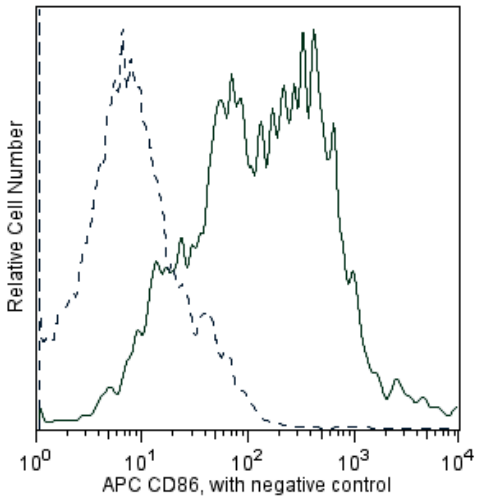
APC Rat anti-Mouse CD86

Product Information

Material Number:	**561964**
Alternate Name:	B7-2
Size:	25 µg
Concentration:	0.2 mg/ml
Clone:	GL1
Immunogen:	Mouse (CBA/Ca) LPS-activated splenic B Cells
Isotype:	Rat (LOU) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The GL1 antibody has been reported to react with the B7-2 (CD86) costimulatory molecule expressed on a broad spectrum of leukocytes, including B lymphocytes, T lymphocytes, thioglycollate-induced peritoneal macrophages, dendritic cells and astrocytes. CD86 is expressed at low levels by freshly explanted peripheral B and T cells, and its expression is substantially increased by a variety of T cell- and B cell-specific stimuli with a peak expression after 18-42 hours of culture. In contrast to most naive CD4+ T cells, memory CD4+ T cells express B7-2, both at the mRNA and protein level. CD86, a ligand for CD28 and CD152 (CTLA-4), is one of the accessory molecules that plays an important role in T cell-B cell costimulatory interactions. It has been shown to be involved in immunoglobulin class-switching and triggering of mouse NK cell-mediated cytotoxicity. CD80 (B7-1) is an alternate ligand for CD28 and CD152 (CTLA-4). GL1 antibody reportedly blocks MLR and stimulation of T cells by natural antigen-presenting cells. In addition, a mixture of anti-B7-1 and anti B7-2 (GL1) mAbs reportedly inhibits the in vitro interaction of CTLA-4 with its ligand and the in vivo priming of cytotoxic T lymphocytes.



Flow cytometric analysis of CD86 on activated and resting mouse splenocytes. *Freshly isolated (dashed line) or 72-hour LPS-stimulated BALB/c splenocytes (solid line) were pretreated with Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™; Cat. No. 553141) and stained with APC Rat anti-Mouse CD86 (Cat No. 561964). Flow cytometry was performed on a BD FACSCalibur™ System and the histograms were derived from the gated events based on light scattering characteristics of viable splenocytes.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

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

The antibody was conjugated to APC under optimum conditions, and unconjugated antibody and free APC were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
553932	APC Rat IgG2a κ Isotype Control	0.1 mg	R35-95
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
554656	Stain Buffer (FBS)	500 ml	(none)

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
3. This APC-conjugated reagent can be used in any flow cytometer equipped with a dye, HeNe, or red diode laser.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
5. 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. (Biology)

Borriello F, Sethna MP, Boyd SD, et al. B7-1 and B7-2 have overlapping, critical roles in immunoglobulin class switching and germinal center formation. *Immunity.* 1997; 6(3):303-313. (Biology)

Freeman GJ, Borriello F, Hodes RJ, et al. Uncovering of functional alternative CTLA-4 counter-receptor in B7-deficient mice. *Science.* 1993; 262(5135):907-909. (Biology)

Hakamada-Taguchi R, Kato T, Ushijima H, Murakami M, Uede T, Nariuchi H. Expression and co-stimulatory function of B7-2 on murine CD4+ T cells. *Eur J Immunol.* 1998; 28(3):865-873. (Biology)

Hathcock KS, Laszlo G, Dickler HB, Bradshaw J, Linsley P, Hodes RJ. Identification of an alternative CTLA-4 ligand costimulatory for T cell activation. *Science.* 1993; 262(5135):905-907. (Immunogen)

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. (Biology)

Herold KC, Vezys V, Koons A, Lenschow D, Thompson C, Bluestone JA. CD28/B7 costimulation regulates autoimmune diabetes induced with multiple low doses of streptozotocin. *J Immunol.* 1997; 158(2):984-991. (Biology)

Inaba K, Witmer-Pack M, Inaba M, et al. The tissue distribution of the B7-2 costimulator in mice: abundant expression on dendritic cells in situ and during maturation in vitro. *J Exp Med.* 1994; 180(5):1849-1860. (Biology)

Krummel MF, Allison JP. CD28 and CTLA-4 have opposing effects on the response of T cells to stimulation. *J Exp Med.* 1995; 182(2):459-465. (Biology)

Larsen CP, Ritchie SC, Hendrix R, et al. Regulation of immunostimulatory function and costimulatory molecule (B7-1 and B7-2) expression on murine dendritic cells. *J Immunol.* 1994; 152(11):5208-5219. (Biology)

Lenschow DJ, Su GH, Zuckerman LA, et al. Expression and functional significance of an additional ligand for CTLA-4. *Proc Natl Acad Sci U S A.* 1993; 90(23):11054-11058. (Biology)

Liu Y, Wenger RH, Zhao M, Nielsen PJ. Distinct costimulatory molecules are required for the induction of effector and memory cytotoxic T lymphocytes. *J Exp Med.* 1997; 185(2):251-262. (Biology)

Martin-Fontecha A, Assarsson E, Carbone E, Karre K, Ljunggren HG. Triggering of murine NK cells by CD40 and CD86 (B7-2). *J Immunol.* 1999; 162(10):5910-5916. (Biology)

McAdam AJ, Schweitzer AN, Sharpe AH. The role of B7 co-stimulation in activation and differentiation of CD4+ and CD8+ T cells. *Immunol Rev.* 1998; 165:231-247. (Biology)

Nikcevich KM, Gordon KB, Tan L, et al. IFN-gamma-activated primary murine astrocytes express B7 costimulatory molecules and prime naive antigen-specific T cells. *J Immunol.* 1997; 158(2):614-621. (Biology)

Rauschmayr-Kopp T, Williams IR, Borriello F, Sharpe AH, Kupper TS. Distinct roles for B7 costimulation in contact hypersensitivity and humoral immune responses to epicutaneous antigen. *Eur J Immunol.* 1998; 28(12):4221-4227. (Biology)

Roy M, Aruffo A, Ledbetter J, Linsley P, Kehry M, Noelle R. Studies on the interdependence of gp39 and B7 expression and function during antigen-specific immune responses. *Eur J Immunol.* 1995; 25(2):596-603. (Biology)

Turley SJ, Inaba K, Garrett WS, et al. Transport of peptide-MHC class II complexes in developing dendritic cells. *Science.* 2000; 288(5465):522-527. (Biology)

Yang G, Mizuno MT, Hellstrom KE, Chen L. B7-negative versus B7-positive P815 tumor: differential requirements for priming of an antitumor immune response in lymph nodes. *J Immunol.* 1997; 158(2):851-858. (Biology)