Technical Data Sheet

BUV395 Rat Anti-Mouse CD86

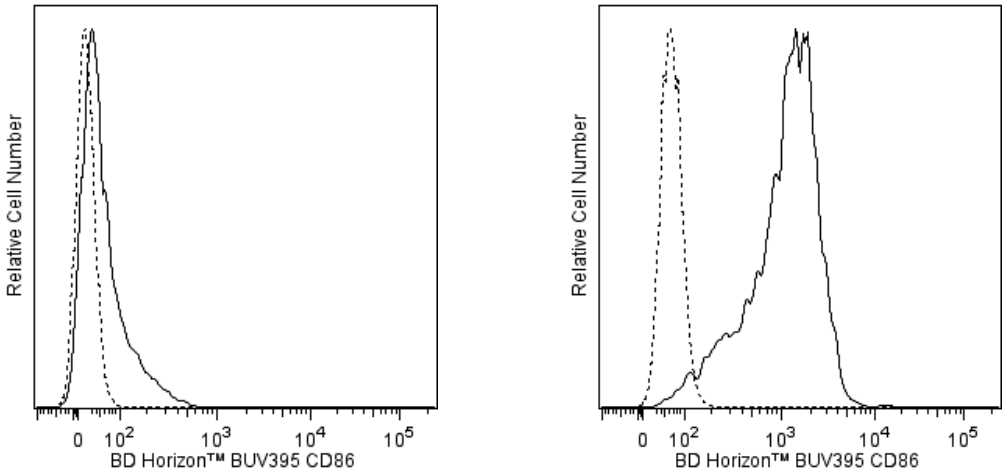
Product Information

Material Number:	**564199**
Alternate Name:	B7-2; Ly-58; Cd28l2; Early T-cell costimulatory molecule 1; ETC1; MB7; CLS
Size:	50 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 BSA and ≤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.

The antibody was conjugated to BD Horizon™ BUV395 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is optimal for multicolor flow cytometry because it has little to no spillover into other detectors. With an Ex Max at 348 nm and an Em Max at 395 nm, BD Horizon BUV395 can be excited with a 355 nm laser and detected with a 379/28 filter.



Flow cytometric analysis of CD86 expression on resting or activated mouse splenocytes. *Freshly isolated (Left Panel) or 72-hour lipopolysaccharide-stimulated (Right Panel) mouse splenic leucocytes were pretreated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142). The cells were then stained with either BD Horizon™ BUV395 Rat IgG2a, κ Isotype Control (Cat. No. 563556; dashed line histograms) or BD Horizon BUV395 Rat Anti-Mouse CD86 antibody (Cat. No. 564199; solid line histograms). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable resting (Left Panel) or activated (Right Panel) lymphocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.*

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 with BD Horizon™ BUV395 under optimum conditions, and unconjugated antibody and free BD Horizon™ BUV395 were removed.

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Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
554657	Stain Buffer (BSA)	500 ml	(none)
563556	BUV395 Rat IgG2a, κ Isotype Control	50 µg	R35-95
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2
555899	Lysing Buffer	100 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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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: Blocking, Immunoprecipitation)

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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. (Clone-specific: Blocking)

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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. (Clone-specific: Blocking)

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)

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. (Clone-specific: Electron microscopy, Fluorescence microscopy)

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. (Clone-specific: Immunohistochemistry)

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