Technical Data Sheet

BUV563 Mouse Anti-Human CD278

Product Information

Material Number:	741421
Size:	50 µg
Clone:	DX29
Alternative Name:	ICOS; DX-29; H4; Inducible T-cell costimulator; AILIM; CVID1
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG1, κ
Immunogen:	Activated human T cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	29851
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The DX29 monoclonal antibody specifically binds to human CD278, which is also known as Inducible Costimulator (ICOS) or Inducible T-cell Costimulator. ICOS is a homodimeric type I transmembrane glycoprotein with an approximate molecular weight of 50-60 kDa. It is a member of the CD28 family and is highly expressed on activated T cells. CD278 is the receptor for ICOS-ligand (also known as, CD275, B7-H2, B7RP-1, or LICOS). Like CD28, ICOS can provide a costimulatory signal for T cell activation, proliferation and cytokine production. It is not expressed on resting or activated B cells, monocytes, NK cells, granulocytes, dendritic cells or platelets. Unlike the constitutively expressed CD28, ICOS is de novo expressed upon cellular activation. Reports describe similarities between CD28 and ICOS in T cell activation, such as the costimulation of cytokine production. However, it has been suggested that ICOS may play a greater role in IL-10 production. In the presence of IL-10, purified recombinant human ICOS protein significantly increased in vitro B cell growth stimulated by pokeweed mitogen (PWM) and enhanced production of IgG.

The antibody was conjugated to BD Horizon™ BUV563 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 which has an Ex Max of 348 nm and an acceptor dye. The tandem has an Em Max at 563 nm. BD Horizon BUV563 can be excited by the 355 nm ultraviolet laser. On instruments with a 561 nm Yellow-Green laser, the recommended bandpass filter is 585/15 nm with a 535 nm long pass to minimize laser light leakage. When BD Horizon BUV563 is used with an instrument that does not have a 561 nm laser, a 560/40 nm filter with a 535 nm long pass may be more optimal. Due to the excitation and emission characteristics of the acceptor dye, there may be spillover into the PE and PE-CF594 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

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 BUV563 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
612920	BUV563 Mouse IgG1, κ Isotype Control	50 µg	X40
554656	Stain Buffer (FBS)	500 mL	

554657	Stain Buffer (BSA)	500 mL
563794	Brilliant Stain Buffer	100 Tests
555899	Lysing Buffer	100 mL
349202	Lysing Solution 10X Concentrate	100 NA
564219	Human BD Fc Block™	50 mg

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.

References

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Fos C, Salles A, Lang V, et al. ICOS ligation recruits the p50alpha PI3K regulatory subunit to the immunological synapse. J Immunol. 2008; 181(3):1969-1977. (Clone-specific: Flow cytometry).
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