

Technical Data Sheet

BV510 Mouse Anti-Human CD278 (ICOS)

Product Information

Material Number:	744930
Size:	50 µg
Clone:	DX29
Alternative Name:	ICOS; DX-29; H4; Inducible T-cell costimulator; ALLIM; 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™ BV510 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 405-nm and Em Max at 510-nm, BD Horizon BV510 can be excited by the violet laser and detected in the BD Horizon V500 (525/50-nm) filter set. BD Horizon BV510 conjugates are useful for the detection of dim markers off the violet laser.

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 BV510 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
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 wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.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.
9. BD Horizon Brilliant Violet 510 is covered by one or more of the following US patents: 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.
- Kallinich T, Beier KC, Gelfand EW, Kroczeck RA, Hamelmann E. Co-stimulatory molecules as potential targets for therapeutic intervention in allergic airway disease. *Clin Exp Allergy.* 2005; 35(12):1521-1534.
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