Technical Data Sheet

**BV650 Mouse Anti-Human CD278**

**Product Information**

- **Material Number:** 563832
- **Alternate Name:** ICOS; DX-29; H4; Inducible T-cell costimulator; AILIM; CVID1
- **Size:** 50 tests
- **Vol. per Test:** 5 µl
- **Clone:** DX29
- **Immunogen:** Activated human T cells
- **Isotype:** Mouse IgG1, κ
- **Reactivity:** QC Testing: Human
- **Storage Buffer:** Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The DX29 monoclonal antibody specifically binds to human CD278 which is also known as inducible costimulator (ICOS) and inducible T-cell co-stimulator. 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, and 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™ BV650 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. This dye is a tandem fluorochrome of BD Horizon™ BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon™ BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

![Flow cytometric analysis of CD278 expression on stimulated human peripheral blood lymphocytes.](image)

*Flow cytometric analysis of CD278 expression on stimulated human peripheral blood lymphocytes.* Human peripheral blood mononuclear cells were stimulated with Phytohemagglutinin (PHA; Sigma L-1668) for 3 days. The cells were then stained with either BD Horizon™ BV650 Mouse IgG1, κ Isotype Control (Cat. No. 563231; dashed line histogram) or BD Horizon™ BV650 Mouse Anti-Human CD278 antibody (Cat. No. 563832; solid line histogram). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphoblasts. 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™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV650 were removed.

**BD Biosciences**

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563832 Rev. 1
**Application Notes**

**Application**

Flow cytometry Routinely Tested

**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tbody>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 ml</td>
<td>(none)</td>
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<tr>
<td>563231</td>
<td>BV650 Mouse IgG1, k Isotype Control</td>
<td>50 µg</td>
<td>X40</td>
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**Product Notices**

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use $1 \times 10^6$ cells in a 100-µl experimental sample (a test).
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. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. Brilliant Violet™ 650 is a trademark of Sirigen.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

**References**


Dong C, Nurieva RI. Regulation of immune and autoimmune responses by ICOS. *J Autoimmun.* 2003; 21(3):255-260. (Biology)


