

# Technical Data Sheet

## BV650 Mouse Anti-Human CD27

### Product Information

Material Number:	751674
Size:	50 µg
Clone:	O323
Alternative Name:	CD27 antigen; TNFRSF7; S152; T14; Tp55
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG1, κ
Immunogen:	Not Reported
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	IV T-186
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The O323 monoclonal antibody specifically recognizes CD27 which is also known as Tumor necrosis factor receptor superfamily member 7 (TNFRSF7), T14, Tp55, or S152. CD27 exists as a ~110-120 kDa disulfide-linked homodimer comprised of two single-pass type I transmembrane glycoproteins that are encoded by CD27 (CD27 molecule). CD27 is expressed on medullary thymocytes and T cells, with higher expression on activated T cells, and subsets of mature B cells and natural killer (NK) cells. A soluble 28-32 kDa form of CD27 is produced by lymphocytes upon cellular activation. Binding of the CD27 antigen, expressed on T cells, to its ligand, CD70 (CD27L), provides a costimulatory signal, leading to T cell proliferation, production of cytotoxic T cells, and enhanced production of cytokines. Binding of CD70 to CD27 expressed on B cells leads to B cell proliferation and the generation of plasma cells and immunoglobulin production. The CD27 antigen becomes hyperphosphorylated on serine residues upon activation of T cells. Signaling through the CD27 antigen activates NFκB and stress activated protein kinase (SAPK)/c Jun N terminal kinase (JNK).

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.

### 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 the dye under optimum conditions that minimize unconjugated dye and antibody.

### Recommended Assay Procedure

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and CompBead to ensure that BD Comp beads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes 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. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

## Suggested Companion Products

Catalog Number	Name	Size	Clone
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
563231	BV650 Mouse IgG1, k 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	
566349	Brilliant Stain Buffer	1000 Tests	
566385	Brilliant Stain Buffer Plus	1000 Tests	

## Product Notices

1. 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.
2. Researchers should determine the optimal concentration of this reagent for their individual applications.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. Please refer to [www.bdbiosciences.com/us/s/resources](http://www.bdbiosciences.com/us/s/resources) for technical protocols.
7. 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.
8. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
9. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
10. BD Horizon Brilliant Violet 650 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.

## References

Björkström NK, Béziat V, Cichocki F, et al. CD8 T cells express randomly selected KIRs with distinct specificities compared with NK cells. *Blood*. 2012; 120(17):3455-65. (Clone-specific: Flow cytometry).

Borst J, Hendriks J, Xiao Y. CD27 and CD70 in T cell and B cell activation. *Curr Opin Immunol*. 2005; 17(3):275-81. (Biology: Flow cytometry).

Klein U, Rajewsky K, Küppers R. Human immunoglobulin (Ig)M+IgD+ peripheral blood B cells expressing the CD27 cell surface antigen carry somatically mutated variable region genes: CD27 as a general marker for somatically mutated (memory) B cells. *J Exp Med*. 1998; 188(9):1679-89. (Biology: Flow cytometry).

Reiter C. T9. Cluster report: CD27. In: Knapp W. W. Knapp .. et al., ed. *Leucocyte typing IV : white cell differentiation antigens*. Oxford New York: Oxford University Press; 1989; :350.

Zola H. *Leukocyte and stromal cell molecules : the CD markers*. Hoboken, N.J.: Wiley-Liss; 2007; .

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