

# Technical Data Sheet

## BV711 Mouse Anti-Human CD80 (B7-1)

### Product Information

Material Number:	751726
Size:	50 µg
Clone:	2D10.4 (also known as 2D10)
Alternative Name:	B7; B7-1; B7.1; BB1; CD28LG
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG1, κ
Immunogen:	Not Reported
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	VI CD80.1
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The 2D10.4 monoclonal antibody, also known as 2D10, specifically recognizes CD80 which is otherwise known as Activation B7-1 antigen (B7-1), B7.1, or B7. This ~60 kDa single-pass type I transmembrane glycoprotein is encoded by CD80 (CD80 molecule) that belongs to the immunoglobulin gene superfamily (IgSF). CD80 (B7-1) is comprised of an extracellular region with an IgV-like domain followed by an IgC-like domain, a transmembrane region and a cytoplasmic tail. It is variably expressed on activated B cells, activated CD4+ and CD8+ T cells, macrophages, and dendritic cells. CD80 (B7-1) serves as a ligand for the CD28 and CD152 (CTLA-4) coreceptors that are differentially expressed on T cells. CD80 (B7-1) engagement of CD28 costimulates T cells activated through their TCR-CD3 complex whereas its interaction with CD152 (CTLA-4) generates an inhibitory signal for T cell responses.

The antibody was conjugated to BD Horizon™ BV711 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 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 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
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349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
563044	BV711 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 711 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.
11. Cy is a trademark of GE Healthcare.

## References

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