

Technical Data Sheet

R718 Mouse Anti-Human CD80 (B7-1)

Product Information

Material Number:	751737
Size:	50 µg
Clone:	2D10.4
Alternative Name:	B7; B7-1; B7.1; BB1; CD28LG
Reactivity:	Tested in Development:Human
Isotype:	Mouse IgG1, κ
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 Red 718, which has been developed exclusively for BD Biosciences as a better alternative to Alexa Fluor® 700. BD Horizon Red 718 can be excited by the red laser (628 – 640 nm) and, with an Em Max around 718 nm, it can be detected using a 730/45 nm filter. Due to similar excitation and emission properties, we do not recommend using R718 in combination with APC-R700 or Alexa Fluor® 700.

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 BD 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 BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

Suggested Companion Products

Catalog Number	Name	Size
564219	Human BD Fc Block™	50 µg
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
555899	Lysing Buffer	100 mL
349202	Lysing Solution 10X Concentrate	100 mL
566928	R718 Mouse IgG1, κ Isotype Control	50 µg

Product Notices

1. Researchers should determine the optimal concentration of this reagent for their individual applications.
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. 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. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
6. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
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References

Jones M, Mason DY. CD80 Workshop Panel report. In: Kishimoto T. Tadimitsu Kishimoto .. et al., ed. Leucocyte typing VI : white cell differentiation antigens : proceedings of the sixth international workshop and conference held in Kobe, Japan, 10-14 November 1996. New York: Garland Pub.; 1997:186-187.

van der Merwe PA, Bodian DL, Daenke S, Linsley P, Davis SJ. CD80 (B7-1) binds both CD28 and CTLA-4 with a low affinity and very fast kinetics.. *J Exp Med.* 1997; 185(3):393-403. (Clone-specific: Western blot).

Battifora M, Pesce G, Paolieri F, et al. B7.1 costimulatory molecule is expressed on thyroid follicular cells in Hashimoto's thyroiditis, but not in Graves' disease.. *J Clin Endocrinol Metab.* 1998; 83(11):4130-9. (Clone-specific: Flow cytometry, Functional assay, Immunocytochemistry, Immunohistochemistry).

Mielle J, Audo R, Hahne M, et al. IL-10 Producing B Cells Ability to Induce Regulatory T Cells Is Maintained in Rheumatoid Arthritis.. *Front Immunol.* 2018; 9:961. (Clone-specific: Flow cytometry).

Orbach A, Rachmilewitz J, Shani N, et al. CD40-FasL and CTLA-4-FasL fusion proteins induce apoptosis in malignant cell lines by dual signaling.. *Am J Pathol.* 2010; 177(6):3159-68. (Clone-specific: Flow cytometry).

Werz O, Gerstmeier J, Libreros S, et al. Human macrophages differentially produce specific resolvin or leukotriene signals that depend on bacterial pathogenicity.. *Nat Commun.* 2018; 9(1):59. (Clone-specific: Flow cytometry).

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