

Technical Data Sheet

BV605 Rat Anti-Mouse CD226

Product Information

Material Number:	750914
Size:	50 µg
Clone:	10E5
Alternative Name:	DNAM-1; DNAM1; PTA-1; TLIa1
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat IgG2b, κ
Immunogen:	Mouse Th1 Cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 10E5 monoclonal antibody specifically binds to CD226 which is also known as, Platelet and T-cell activation antigen 1 (Pta1), T lineage-specific activation antigen 1 (TLiSA1), or DNAX accessory molecule-1 (DNAM-1). CD226 is a type I transmembrane glycoprotein that belongs to the immunoglobulin superfamily. CD226 serves as an adhesion molecule that is primarily expressed on T lymphocytes. Naïve CD8+ T cells express high levels of CD226 whereas it is differentially expressed on CD4+ T cells. In certain model systems, long term-cloned Th1 cells can express high CD226 levels when compared with the downregulated CD226 expression exhibited on cloned Th2 and Th0 cells. CD226 expression is also detectable on subsets of CD11b+ macrophages and NK cells. Adhesive interactions between CD226 and its ligands, CD112 and CD155, can result in cell signaling events that promote innate and adaptive immune responses, including the differentiation and survival of cytotoxic cells.

This antibody is conjugated to BD Horizon™ BV605 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max of 602-nm, BD Horizon BV605 can be excited by a violet laser and detected with a standard 610/20-nm filter set. BD Horizon BV605 is a tandem fluorochrome of BD Horizon BV421 and an acceptor dye with an Em max at 605-nm. Due to the excitation of the acceptor dye by the green (532 nm) and yellow-green (561 nm) lasers, there will be significant spillover into the PE and BD Horizon PE-CF594 detectors off the green or yellow-green lasers. BD Horizon BV605 conjugates are very bright, often exhibiting brightness equivalent to PE conjugates and can be used as a third color off of the violet laser.

Preparation and Storage Section

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.**

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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554656	Stain Buffer (FBS) RUO	500 mL
554657	Stain Buffer (BSA) RUO	500 mL
563794	Brilliant Stain Buffer RUO	100 Tests
555899	Lysing Buffer RUO	100 mL
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO	0.1 mg
565804	Red Nucleic Acid Stain RUO	0.5 mL
563145	BV605 Rat IgG2b, κ Isotype Control RUO	50 µg
566349	Brilliant Stain Buffer RUO	1000 Tests
566385	Brilliant Stain Buffer Plus RUO	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 wwwbdbiosciences.com/colors.
6. Please refer to wwwbdbiosciences.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. CF™ is a trademark of Biotium, Inc.
10. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from BD Horizon™ BV421 may be observed. Therefore, we recommend that individual compensation controls be performed for every BD Horizon™ BV605 conjugate.
11. BD Horizon Brilliant Violet 605 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.
12. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.

References

Dardalhon V, Schubart AS, Reddy J, et al. CD226 is specifically expressed on the surface of Th1 cells and regulates their expansion and effector functions. *Immunology*. 2005; 175(3):1558-1565.

Seth S, Georgoudaki AM, Chambers BJ et al. Heterogeneous expression of the adhesion receptor CD226 on murine NK and T cells and its function in NK-mediated killing of immature dendritic cells. *J Leukoc Biol*. 2009; 86(1):91-101.

Tahara-Hanaoka S, Shibuya K, Kai H, et al. *Blood*. 2006; 107(4):491-496.

Tahara-Hanaoka S, Shibuya K, Onoda Y et al. Functional characterization of DNAM-1 (CD226) interaction with its ligands PVR (CD155) and nectin-2 (PRR-2/CD112). *Int Immunol*. 2006; 16(4):533-538.

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