Technical Data Sheet

BV421 Hamster Anti-Mouse CD28

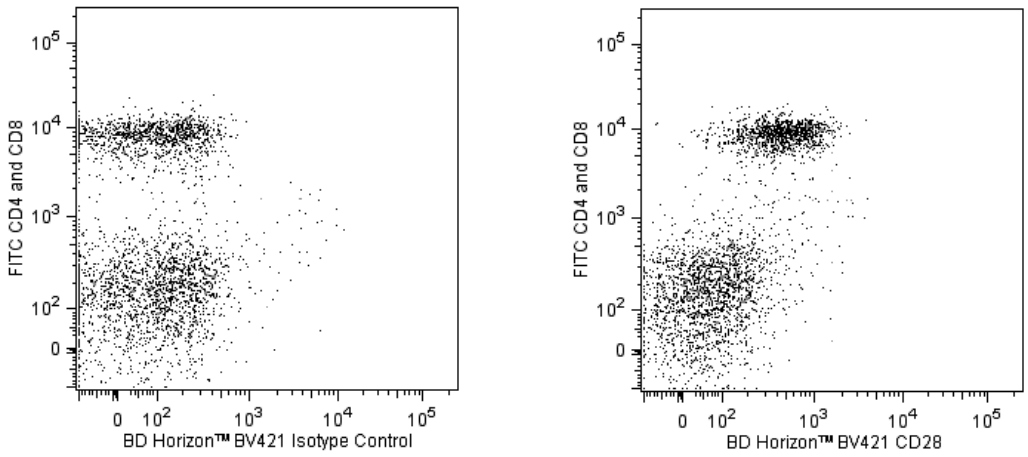
Product Information

Material Number:	**562764**
Alternate Name:	Cd28; CD28 antigen; T-cell-specific surface glycoprotein CD28
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	37.51
Immunogen:	Mouse EL-4 (T-cell lymphoma) Cells
Isotype:	Syrian Hamster IgG2, λ1
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 37.51 antibody reacts with CD28, which is expressed on most thymocytes, at low density on nearly all CD4+ and CD8+ peripheral T cells, and at even lower density on NK cells. The expression of CD28, in splenocytes and thymocytes, has been reported to increase after activation. CD28 transcripts are found in mast cells, and cell-surface expression of CD28 is induced upon maturation or activation of mast cells. It has been reported that CD28 is not expressed on some populations of intraepithelial T lymphocytes. CD28 is a costimulatory receptor; its ligands include CD80 (B7-1) and CD86 (B7-2). The 37.51 mAb augments proliferation and cytokine production by activated T and NK cells and can provide a costimulatory signal for CTL induction. There is considerable evidence that CD28 is a costimulatory receptor involved in many, but not all, T cell-dependent immune responses.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates.



Multicolor flow cytometric analysis of CD28 expression on C57BL/6 mouse splenocytes. *Splenic leucocytes were pre-incubated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142). The cells were then stained simultaneously with FITC Rat Anti-Mouse CD4 (Cat. No. 553046/553047/561835) and FITC Rat Anti-Mouse CD8 (Cat. No. 553030/553031/561966) antibodies and with either BD Horizon™ BV421 Armenian Hamster IgG2, κ Isotype Control (Cat. No. 562629; Left Panel) or BD Horizon™ BV421 Hamster Anti-Mouse CD28 antibody (Cat. No. 562764; Right Panel). Two-color flow cytometric dot plots show the correlated expression patterns of CD28 (or Ig Isotype Control staining) versus CD4 and CD8 for gated events with the forward and side light-scatter characteristics of viable leucocytes. Flow cytometry 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

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Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
562629	BV421 Hamster IgG2, Lambda Isotype Control	50 µg	Ha4/8
555899	Lysing Buffer	100 ml	(none)
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2
553046	FITC Rat Anti-Mouse CD4	0.1 mg	RM4-5
553047	FITC Rat Anti-Mouse CD4	0.5 mg	RM4-5
561835	FITC Rat Anti-Mouse CD4	25 µg	RM4-5
553030	FITC Rat Anti-Mouse CD8a	0.1 mg	53-6.7
553031	FITC Rat Anti-Mouse CD8a	0.5 mg	53-6.7
561966	FITC Rat Anti-Mouse CD8a	25 µg	53-6.7

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/documents/hamster_chart_11x17.pdf.
4. Brilliant Violet™ 421 is a trademark of Sirigen.
5. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
9. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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Nandi D, Gross JA, Allison JP. CD28-mediated costimulation is necessary for optimal proliferation of murine NK cells. *J Immunol.* 1994; 152(7):3361-3369. (Clone-specific: (Co)-stimulation, Flow cytometry, Stimulation)

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