

Technical Data Sheet

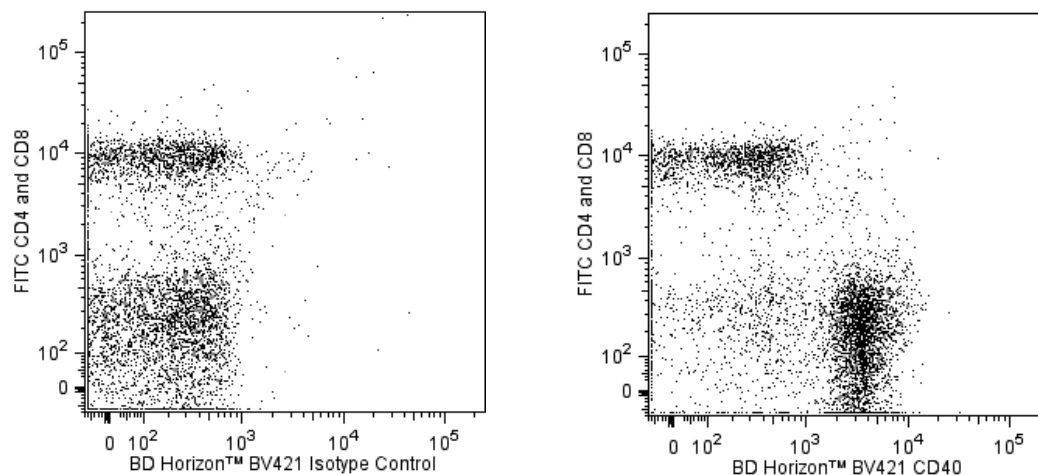
BV421 Rat Anti-Mouse CD40**Product Information**

Material Number:	562846
Alternate Name:	Bp50; Tnfrsf5; TNFR5; TRAP; CD40L receptor; GP39; HIGM1; IMD3; T-BAM
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	3/23
Immunogen:	Mouse CD40 Recombinant Protein
Isotype:	Rat (LOU) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 3/23 clone monoclonal antibody specifically binds to CD40, a 40-50 kDa glycoprotein expressed on B lymphocytes and other antigen-presenting cells. CD40 has been reported to be transiently expressed on activated CD4+ and CD8+ T cells and in some mouse strains, the 3/23 mAb has been reported to react with 5-10% of T lymphocytes in adult mouse, but not neonatal, spleen. CD40 plays a key role in B-cell growth and differentiation where interactions of CD40 with its ligand, CD154, are involved in the initiation, effector, and memory stages of cell-mediated immune responses. In addition, CD40 has been reported to be involved with the triggering of NK cells and NK-T cells. Ligation of CD40 with the 3/23 antibody has been reported to induce splenic B cells to express the costimulatory molecule CD86 (B7-2). In addition, although the 3/23 antibody by itself is a weak B-cell mitogen, it has been reported to synergize markedly with mitogenic anti-IgM, anti-IgD mAb or IL-4 to promote B-cell proliferation.

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.



Two-color flow cytometric analysis of CD40 expression on mouse splenocytes. Mouse splenic leucocytes were stained with FITC Rat Anti-Mouse CD4 (Cat. No. 553047/553046/561835) and FITC Rat Anti-Mouse CD8a (Cat. No. 553031/553030/561966), and either BD Horizon™ BV421 Rat IgG2a, κ Isotype Control (Cat. No. 562602; Left Panel) or BD Horizon™ BV421 Rat Anti-Mouse CD40 antibody (Cat. No. 562846; Right Panel). Two-color flow cytometric dot plots show the correlated expression of CD4 + CD8 versus CD40 (or Ig Isotype Control staining) for gated events with the forward and side light-scatter characteristics of viable splenic leucocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.

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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.

Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
562602	Brilliant Violet™ 421 Rat IgG2a, κ Isotype Control	50 µg	R35-95
555899	Lysing Buffer	100 ml	(none)
553047	FITC Rat Anti-Mouse CD4	0.5 mg	RM4-5
553046	FITC Rat Anti-Mouse CD4	0.1 mg	RM4-5
561835	FITC Rat Anti-Mouse CD4	25 µg	RM4-5
553031	FITC Rat Anti-Mouse CD8a	0.5 mg	53-6.7
553030	FITC Rat Anti-Mouse CD8a	0.1 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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
8. Brilliant Violet™ 421 is a trademark of Sirigen.

References

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