

Technical Data Sheet

BUV563 Rat Anti-Mouse CD6

Product Information

Material Number:	749052
Size:	50 µg
Clone:	J90-462
Alternative Name:	Cd6; CD6 antigen
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat IgG2a, λ
Immunogen:	Mouse CD6 Peptide
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	12511
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The J90-462 monoclonal antibody specifically recognizes CD6. CD6 is a 105-130 kDa type I transmembrane glycoprotein that belongs to the scavenger receptor family. It is expressed on most thymocytes and peripheral T cells. CD6 is highly expressed on CD3-high thymocytes and expressed at lower levels on CD4+ CD8+ double positive and CD4+CD8- or CD4-CD8+ single positive thymocytes. CD6 is also reportedly expressed at low levels by some neurons. CD6 serves as a receptor for CD166, also known as Activated Leukocyte Cell Adhesion Molecule (ALCAM). CD6 plays a role in adhesion and migration during organogenesis. The CD6 intracellular domain is constitutively phosphorylated which suggests that CD6 may play a signaling role in T cell activation.

The antibody was conjugated to BD Horizon™ BUV563 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 which has an Ex Max of 348 nm and an acceptor dye. The tandem has an Em Max at 563 nm. BD Horizon BUV563 can be excited by the 355 nm ultraviolet laser. On instruments with a 561 nm Yellow-Green laser, the recommended bandpass filter is 585/15 nm with a 535 nm long pass to minimize laser light leakage. When BD Horizon BUV563 is used with an instrument that does not have a 561 nm laser, a 560/40 nm filter with a 535 nm long pass may be more optimal. Due to the excitation and emission characteristics of the acceptor dye, there may be spillover into the PE and PE-CF594 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 with BD Horizon BUV563 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) 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).

Suggested Companion Products

Catalog Number	Name	Size	Clone
612922	BUV563 Rat IgG2a, κ Isotype Ctrl	50 µg	R35-95
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
565804	Red Nucleic Acid Stain	0.5 mL	
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	

Product Notices

1. This antibody was developed for use in flow cytometry.
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. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
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 wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.com/us/s/resources for technical protocols.
8. 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.

References

- Bowen MA, Bajorath J, D'Egidio M, et al. Characterization of mouse ALCAM (CD166): the CD6-binding domain is conserved in different homologs and mediates cross-species binding.. *Eur J Immunol.* 1997; 27(6):1469-78. (Biology: Flow cytometry).
- Pal A, Romain PL, Singer NG, Fox D, Stavnezer J. Mouse CD6: sequence of cDNA and expression of mRNA.. *Immunol Lett.* 1996; 49(1-2):133-7. (Biology: Flow cytometry).
- Roncagalli R, Hauri S, Fiore F, et al. Quantitative proteomics analysis of signalosome dynamics in primary T cells identifies the surface receptor CD6 as a Lat adaptor-independent TCR signaling hub.. *Nat Immunol.* 2014; 15(4):384-92. (Biology: Flow cytometry).
- Singer NG, Fox DA, Haqqi TM, et al. CD6: expression during development, apoptosis and selection of human and mouse thymocytes.. *Int Immunol.* 2002; 14(6):585-97. (Biology: Flow cytometry).
- Starling GC, Whitney GS, Siadak AW, et al. Characterization of mouse CD6 with novel monoclonal antibodies which enhance the allogeneic mixed leukocyte reaction.. *Eur J Immunol.* 1996; 26(4):738-46. (Biology: Flow cytometry).
- Whitney G, Bowen M, Neubauer M, Aruffo A. Cloning and characterization of murine CD6.. *Mol Immunol.* 1995; 32(1):89-92. (Biology: Flow cytometry).

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