

Technical Data Sheet

R718 Rat Anti-Mouse Vα 8.3 T-Cell Receptor

Product Information

Material Number:	751868
Size:	50 µg
Clone:	KT50
Alternative Name:	TCR Vα8.3; TCR V alpha 8.3; TCR Vα8.3
Reactivity:	Tested in Development: Mouse
Isotype:	Rat SD, also known as Sprague-Dawley (outbred) IgG2a, κ
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The KT50 antibody reacts with some members of the Vα 8 T-cell Receptor (TCR) subfamily of mice having the a, b, c, and d haplotypes of the Tcr gene complex (e.g., all strains tested). It recognizes an epitope in the CDR1 of Vα 8.3, but not Vα 8.2, TCR subfamily member, as does the B21.14 mAb (Cat. no. 553374). Site-directed mutagenesis has identified three amino acids which are necessary for antibody reactivity and which are unique to Vα 8.3 among the five functional Vα 8 TCR subfamily members. On a common H-2[k] background, the frequency of Vα 8.3 TCR-bearing T lymphocytes is higher in Tcr[a/a] mice than in Tcr[a/b] mice. Furthermore, studies of congenic strains suggest that CD8+ Vα 8.3 TCR-bearing T lymphocytes undergo negative selection in mice expressing MHC class I antigens of the H-2[d] haplotype.

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
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
555899	Lysing Buffer	100 mL
566941	R718 Rat IgG2a, 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

Tomonari K. Negative selection of Tcr α -V8+CD8+ T cells by MHC class I molecules. *Immunogenetics*. 1992; 35(5):291-295. (Biology).

Tomonari K, Lovering E, Fairchild S, Spencer S. Two monoclonal antibodies specific for the T cell receptor V alpha 8. *Eur J Immunol*. 1989; 19(6):1131-1135. (Immunogen).

Tomonari K, Fairchild S, Rosenwasser OA. Influence of viral superantigens on V beta- and V alpha-specific positive and negative selection. *Immunol Rev*. 1993; 131:131-168. (Biology).

Brodnicki TC, Holman PO, Kranz DM. Reactivity and epitope mapping of single-chain T cell receptors with monoclonal antibodies. *Mol Immunol*. 1996; 33(3):253-263. (Biology).

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