

## TECHNICAL DATA SHEET

# violetFluor™ 450 Anti-Mouse TCR beta (H57-597)

Catalog Number: 75-5961

## PRODUCT INFORMATION

**Contents:** violetFluor™ 450 Anti-Mouse TCR beta (H57-597)

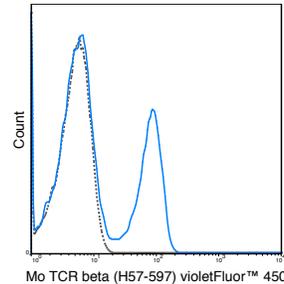
**Isotype:** Armenian Hamster IgG

**Concentration:** 0.2 mg/mL

**Clone:** H57-597

**Reactivity:** Mouse

**Formulation:** 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% NaN<sub>3</sub>,  
0.1% gelatin, pH7.2



C57Bl/6 splenocytes were stained with 0.25 ug violetFluor™ 450 Anti-Mouse TCR beta (75-5961) (solid line) or 0.25 ug violetFluor™ 450 Armenian hamster IgG isotype control (dashed line).

## DESCRIPTION

The H57-597 antibody is specific for the beta chain of the mouse T cell Receptor (TCR). This cell surface protein combines with a second protein chain (alpha chain) to form the alpha-beta TCR that is expressed by NK1.1+ thymocytes, NKT cells, and the majority of peripheral T cells. A small number of T cells may express an alternative heteromer of gamma and delta protein chains, known as the gamma-delta TCR. These receptors participate in a complex with CD3, and with the co-receptors CD4 or CD8, to recognize and respond to antigens bound to MHC molecules on antigen-presenting cells. Such interactions promote T cell receptor signaling (T cell activation) and can result in a number of cellular responses including proliferation, differentiation, production of cytokines or activation-induced cell death. The H57-597 antibody is used as a phenotypic marker for T cells expressing the alpha-beta TCR. It is also widely used to cross-link surface TCR and thereby mimic TCR-mediated cell activation or induction of apoptosis. The antibody does not cross-react with cells expressing the gamma-delta TCR.

## PREPARATION & STORAGE

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation. It is recommended to store the product undiluted at 4°C, and protected from prolonged exposure to light. Do not freeze.

## APPLICATION NOTES

This antibody preparation has been quality-tested for flow cytometry using mouse spleen cells, or an appropriate cell type (where indicated). The amount of antibody required for optimal staining of a cell sample should be determined empirically in your system.

violetFluor™ 450 dye is excited by the violet (405 nm) laser and has a peak emission of 450 nm. The most common band pass filters for this dye are 440/40 or 450/50. violetFluor™ 450 can be used as an alternative for Pacific Blue®, BD Horizon™ V450 or eFluor® 450.

## REFERENCES

Berent-Maoz B, Montecino-Rodriguez E, Signer RAJ, and Dorshkind K. 2012. Blood. 119:5715-5721. (flow cytometry)Wang D, Qin H, Du W, Shen Y-W, Lee W-H, Riggs AD, and Liu C-P. 2012. Proc. Natl. Acad. Sci. 109:9493-9498. (in vitro induction of apoptosis)O'Brian RL, Taylor MA, Hartley J, Nuhsbaum T, Dugan S, Lahmers K, Aydinoglu MK, Wands JM, Roark CL, and Born WK. 2009. Invest. Ophthalmol. Vis. Sci. 50: 3266-3274. (immunofluorescence microscopy – OCT embedded frozen tissue)Matei IR, Gladdy RA, Nutter LMJ, Cauty A, Guidos CJ, and Danska JS. 2007. Blood. 109:1887-1896. (immunoprecipitation)Harada N, Shimada M, Okano S, Suehiro T, Soejima Y, Tomita Y, and Maehara Y. 2004. J. Immunol. 173:6635-6644. (in vivo T cell depletion)Kubo RT, Born W, Kappler JW, Marrack P, and Pigeon M. 1989. J. Immunol. 142: 2736-2742. (Origination of clone, immunoprecipitation, in vitro activation)

NOTE: Please choose the appropriate format for each application. Citations are provided as a convenience to you; please consult Materials and Methods sections for additional details about the use of any product in these publications.

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