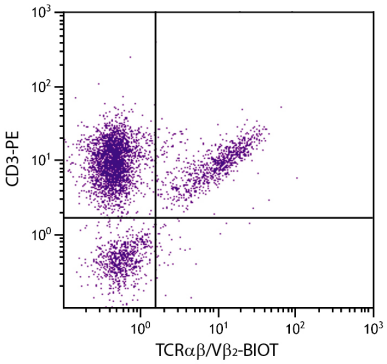
SouthernBiotech

Mouse Anti-Chicken TCRαβ/Vβ$_2$

Cat. No.	Format	Size
8250-01	Purified (UNLB)	0.5 mg
8250-02	Fluorescein (FITC)	0.5 mg
8250-08	Biotin (BIOT)	0.5 mg
8250-09	R-phycoerythrin (PE)	0.1 mg
8250-13	Spectral Red® (SPRD)	0.1 mg



Chicken peripheral blood lymphocytes were stained with Mouse Anti-Chicken TCRαβ/Vβ2-BIOT (SB Cat. No. 8250-08) and Mouse Anti-Chicken CD3-PE (SB Cat. No. 8200-09) followed by Streptavidin-FITC (SB Cat. No. 7100-02).

Overview

Clone TCR-3
Isotype Mouse (BALB/c) IgG$_1$κ
Immunogen CD3$^+$ TCR1$^-$ TCR2$^-$ Ia$^-$ chicken blood mononuclear cells
Specificity Chicken/Peacock/Guinea Fowl TCRαβ/Vβ$_2$; Mr 48 & 40 kDa
Alternate Name(s) T3/TCR complex, TCR alpha/beta

Description

The monoclonal antibody TCR-3 precipitates a CD3-associated heterodimer of Mr 88 kDa (two bands of Mr 48 kDa and 40 kDa upon reduction) on chicken peripheral blood T cells. Deglycosylation of the heterodimer yields two polypeptides of Mr 34 kDa and 31 kDa. In the chicken, two distinct subpopulations of αβ T cells appear in the thymus subsequent to the appearance of γδ T cells. These subpopulations, originally denoted as TCR-2 and TCR-3, arise sequentially in the thymus during ontogeny and are now known to represent two distinct Vβ families, Vβ$_1$ and Vβ$_2$, respectively. The TCR-3 monoclonal antibody reacts with approximately 9% of thymocytes, 15-25% of blood mononuclear cells, and 13% of splenocytes young adult chickens. Two-color immunofluorescence has revealed that the TCR-3$^+$ thymocytes include CD4$^+$CD8$^-$, CD4$^-$CD8$^+$, CD4$^+$CD8$^+$, and CD4$^-$CD8$^-$ subpopulations. The TCR-3$^+$ thymocytes can be separated into two subsets. One subset is characterized by relatively low levels of expression of the TCR-3/CD3 complex and most of the cells in this subset are CD4$^+$CD8$^+$. Cells in the other subset express TCR-3/CD3 in higher density and are either CD4$^+$CD8$^-$ or CD4$^-$CD8$^+$, corresponding to the more mature medullary subset of thymocytes. The TCR-3$^+$ cells in the blood and spleen express relatively high levels of the TCR-3/CD3 receptor complex and are "single positive" with CD4$^+$CD8$^-$ cells being four times more frequent that the CD4$^-$CD8$^+$ cells (~ 80% CD4$^+$ vs ~ 20% CD8$^+$).

Applications

FC – Quality tested [1,3-7]
IHC-FS – Reported in literature [1,2]
IP – Reported in literature [1]
Depletion – Reported in literature [1]

Working Dilutions

Flow Cytometry	FITC and BIOT conjugates	≤ 1 µg/10^6 cells
	PE conjugate	≤ 0.5 µg/10^6 cells
	SPRD conjugate	≤ 0.2 µg/10^6 cells
	For flow cytometry, the suggested use of these reagents is in a final volume of 100 µL	
Other Applications	Since applications vary, you should determine the optimum working dilution for the product that is appropriate for your specific need.	

For Research Use Only. Not for Diagnostic or Therapeutic Use.

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Handling and Storage

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of borate buffered saline, pH 8.2. *No preservatives or amine-containing buffer salts added*. Store at 2-8°C.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN_3. Store at 2-8°C.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN_3. Store at 2-8°C.
- The R-phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN_3 and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- The Spectral Red® (SPRD) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN_3 and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- Protect fluorochrome-conjugated forms from light. Reagents are stable for the period shown on the label if stored as directed.

Warning

Some reagents contain sodium azide. Please refer to product specific SDS.

References

1. Char D, Sanchez P, Chen CH, Bucy RP, Cooper MD. A third sublineage of avian T cells can be identified with a T cell receptor-3-specific antibody. J Immunol. 1990;145:3547-55. (Immunogen, FC, IP, Depletion, IHC-FS, Peacock and Guinea Fowl Reactivity)
2. Gaunson JE, Philip CJ, Whithear KG, Browning GF. Lymphocytic infiltration in the chicken trachea in response to Mycoplasma gallisepticum infection. Microbiology. 2000;146:1223-9. (IHC-FS)
3. Koskinen R, Göbel TW, Tregaskes CA, Young JR, Vainio O. The structure of avian CD5 implies a conserved function. J Immunol. 1998;160:4943-50. (FC)
4. Peters MA, Browning GF, Washington EA, Crabb BS, Kaiser P. Embryonic age influences the capacity for cytokine induction in chicken thymocytes. Immunology. 2003;110:358-67. (FC)
5. Bridle BW, Julian R, Shewen PE, Vaillancourt J, Kaushik AK. T lymphocyte subpopulations diverge in commercially raised chickens. Can J Vet Res. 2006;70:183-90. (FC)
6. Zechmann M, Reese S, Göbel TW. Chicken CRTAM binds nectin-like 2 ligand and is upregulated on $CD8^+$ $\alpha\beta$ and $\delta\gamma$ T lymphocytes with different kinetics. PLOS One. 2013;8(12):e81942. (FC)
7. Schusser B, Collarini EJ, Yi H, Izquierdo SM, Fesler J, Pedersen D, et al. Immunoglobulin knockout chickens via efficient homologous recombination in primordial germ cells. Proc Natl Acad Sci USA. 2013;110:20170-5. (FC)

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