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# TECHNICALLY *Speaking*

Place your order with CEDARLANE® or your local distributor.

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## **Biotin Anti-Rat CD8b Monoclonal Antibody**

**CL091B  
CL091B-5  
LOT: 9141**

### **DESCRIPTION:**

Cedarlane's anti-rat CD8b monoclonal antibody reacts with the beta chain of the CD8 differentiation antigen. CD8b is expressed on most thymocytes and mature T cytotoxic/suppressor cells (MHC class I restricted). While the CD8a and CD8b form a heterodimer on the surface of thymocytes and thymus-dependent T cytotoxic/suppressor cells, the majority of NK cells, many CD8 T cells from athymic rats, many activated CD4 T cells, and intestinal epithelium lymphocytes (IEL) express CD8a without CD8b. This suggests that expression of the CD8 heterodimer (a/b) is more dependant on intrathymic T cell maturation than that of the homodimer (a/a). The thymus dependence of CD8a/b T cells may be due to a requirement for thymic selection on self MHC class I antigens.

Reported applications for this antibody include flow cytometry, immunoprecipitation and Western blotting. The 3.4.1 antibody also blocks both activation in an allogenic response and cell mediated cytotoxicity by CD8 T cells.

### **PRESENTATION:**

100µg (CL091B) or 500 µg (CL091B-5) FITC conjugated Ig buffered in PBS , 0.02% NaN<sub>3</sub> and EIA grade BSA as a stabilizing protein to bring total protein concentration to 4-5 mg/ml.

### **STORAGE/STABILITY:**

Store at 4°C. For long term storage, aliquot and freeze unused portion at -20°C in volumes appropriate for single usage. Avoid freeze/thaw cycles. Avoid prolonged exposure to light.

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For more information or to place an order please contact...

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## **SPECIFICATIONS:**

Clone: 3.4.1

### Hybridoma Production:

#### Immunization:

Immunogen: Rat/mouse T cell hybrids expressing CD8  
Donor: BALB/c mouse spleen cells

Fusion Partner: X63 Ag.653 myeloma cell line

Specificity: Rat CD8b

Ig Class: mouse IgG<sub>1,K</sub>

Format: : Biotin conjugated Ig buffered in PBS, 0.02% NaN<sub>3</sub> and EIA grade BSA as a stabilizing protein to bring total protein concentration to 4-5 mg/ml. (Purified from ascitic fluid via Protein G Chromatography).

Antibody Concentration: 0.1 mg/ml

## **FLOW CYTOMETRY ANALYSIS:**

### Method:

1. Prepare a cell suspension in media A. For cell preparations, deplete the red blood cell population with Lympholyte<sup>®</sup>-Rat cell separation medium (CL5040).
2. Wash 2 times.
3. Resuspend the cells to a concentration of  $2 \times 10^7$  cells/ml in media A. Add 50  $\mu$ l of this suspension to each tube (each tube will then contain  $1 \times 10^6$  cells, representing 1 test).
4. To each tube, add 50  $\mu$ l of a 1.0 g\* dilution of **CL091B** or **CL091B-5** per  $10^6$  cells.
5. Vortex the tubes to ensure thorough mixing of antibody and cells.
6. Incubate the tubes for 30 minutes at 4°C.
7. Wash 2 times at 4°C.
8. Add 100  $\mu$ l of secondary antibody **CLCSA1004** (PE Streptavidin) at 1:500 dilution.
9. Incubate the tubes at 4°C for 30-60 minutes.  
(It is recommended that the tubes are protected from light since most fluorochromes are light sensitive).
10. Wash 2 times at 4°C in media B.
11. Resuspend the cell pellet in 50  $\mu$ l ice cold media B.  
Transfer to suitable tubes for flow cytometric analysis containing 15  $\mu$ l of propidium iodide at 0.5 mg/ml in PBS. This stains dead cells by intercalating in DNA.

### Media:

- A. Phosphate buffered saline (pH 7.2) + 5% normal serum of host species + sodium azide (100  $\mu$ l of 2M sodium azide in 100 mls).
- B. Phosphate buffered saline (pH 7.2) + 0.5% Bovine serum albumin + sodium azide (100  $\mu$ l of 2M sodium azide in 100 mls).

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Results:

Tissue Distribution by Flow Cytometry Analysis:

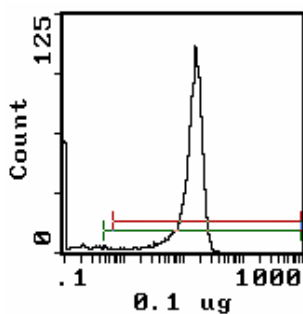
Mouse Strain: Wister

Cell Concentration :  $1 \times 10^6$  cells per test

Antibody Concentration Used:  $0.5 \mu\text{g}/10^6$  cells

Isotypic Control: Biotin Mouse IgG1

<u>Cell Source</u>	<u>Percentage of cells stained above control:</u>
Thymus	90.0%
Spleen Cells	15.2%
Lymph Nodes	17.0%



Cell Source: Thymus  
Percentage of cells stained above control: 90.0 %  
Representative Histogram

**N.B. Appropriate control samples should always be included in any labeling studies.**

**\* For optimal results in various applications, it is recommended that each investigator determine dilutions appropriate for individual use.**

**REFERENCES:**

1. Elflein, K., Rodriguez-Palmero, M., Kerkau, T., and T. Hunig. (2003) Immunobiology. 102, 1764 -1770. Rapid recovery from T lymphopenia by CD28 superagonist therapy.
2. Torres-Nagel, N., Kraus, E., Brown, M.H., Tiefenthaler, G., Mitnacht, R., Williams, A.F., and T. Hunig. (1992) Eur. J. Immunol. 22, 2841-2848. Differential thymus dependence of rat CD8 isoform expression\*.

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