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Monoclonal Antibody to CD4 - FITC

Alternate names: T-cell surface antigen T4/Leu-3, T-cell surface glycoprotein CD4

Catalog No.: CL004FX

Quantity: 0.3 mg

Concentration: 0.1 mg/ml

Background: CD4 (L3T4) which is expressed on the majority of thymocytes and on the MHC class II restricted subset of mature T cells including Th cells1,2. Mouse CD4 has also been reported to be present on multipotential hematopoietic stem cells, bone marrow myeloid precursors, and intrathymic precursors2,3. As a coreceptor in the TCR complex, CD4 is involved in T cell activation through interaction with MHC class II on APC's and in signal transduction via protein tyrosine kinase lck1.

Uniprot ID: P06332

NCBI: NP_038516.1

GeneID: 12504

Host / Isotype: Rat / IgG2a

Clone: CT-CD4

Format:
State: Liquid purified IgG
Buffer System: PBS, 0.1% NaN3 and EIA grade BSA as a stabilizing protein to bring total protein concentration to 4-5 mg/ml.
Label: FITC

Applications:
Flow Cytometry (see Protocols).
(Reported to be useful in immunohistochemistry on acetone fixed frozen sections)
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:
This CT-CD4 monolconal antibody (mAb) recognizes mouse CD4.
Species: Mouse.
Other species not tested.

Storage:
Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General References:
1. Bierer, B.E., et al. 1989. Annu. Rev. Immunol. 7: 579-599.
2. Fredrickson, G.G., and R.S. Basch. 1989. J. Exp. Med. 169: 1473-1478.
3. Wu, L., et al. 1991. Nature. 349: 71-74
4. Cobbold, S.P. et al. 1984 Nature. 312: 548-551.
5. Agel, N.M. et al. 1984 J. Immunol. 131: 2445-2451.
6. Dialynas, D.P. et al. 193 J. Immunol. 131: 2445-2451.

7. Palathumpat, V. et al. 1992 J. Immunol. 148: 3319-3326.
8. Gross, J.A. et al. 1992 J. Immunol. 149:380-388.
9. Darby, C.R. et al. 1993 J. Immunol. 159: 125-129.
10. Darby, C.R. et al. 1992 J. Immunol. 54: 483-490.

Protocols:

FLOW CYTOMETRY ANALYSIS:

1. Prepare a cell suspension in media A. For cell preparations, deplete the red blood cell population with Lympholyte®-M cell separation medium.
2. Wash 2 times.
3. Resuspend the cells to a concentration of 2x10e7 cells/ml in media A. Add 50 µl of this suspension to each tube (each tube will then contain 1x10e6 cells, representing 1 test).
4. To each tube, add ~1.0 µg* of this Ab per 1x10e6 cells.
5. Vortex the tubes to ensure thorough mixing of antibody and cells.
6. Incubate the tubes for 30 minutes at 4°C. (It is recommended that the tubes be protected from light, since most fluorochromes are light sensitive.)
7. Wash 2 times at 4°C.
8. Resuspend the cell pellet in 50 µl ice cold media B.
9. Transfer to suitable tubes for flow cytometric analysis containing 15 µl of propidium iodide at 0.5 mg/ml in PBS. This stains dead cells by intercalating in DNA.

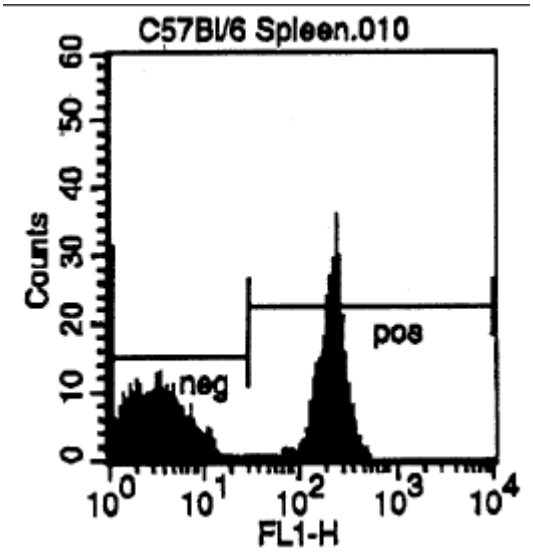
MEDIA:

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

Tissue Distribution by Flow Cytometry Analysis:

Mouse Strain: C57BL/6
Cell Concentration: 1x10e6 cells per test
Antibody Concentration Used: 1.0 µg/10e6 cells
Isotypic Control: FITC Rat IgG2a

Pictures:



Cell Source: CD3e Positive Spleen Cells
Percentage of cells stained above control: 52.4%