

**CYTO-STAT®/  
COULTER CLONE®  
T4-FITC/2H4-RD1**

REF 6603800 - 50 tests

PN 4235852-H



	CLONE 1	CLONE 2
<b>Specificity</b>	CD4	CD45RA
<b>Clone</b>	SFC112T4D11 <sup>4,8,13,14</sup>	2H4LDH11LDB9 <sup>1</sup>
<b>Hybridoma</b>	NS1 x BALB/c	NS1 x BALB/c
<b>Immunogen</b>	Peripheral human T lymphocytes	T lymphocyte line derived from <i>Aotus trivirgatus</i> (Owl Monkey)
<b>Ig Chain</b>	IgG1	IgG1
<b>Species</b>	Mouse	Mouse
<b>Source</b>	Conditioned media	Conditioned media
<b>Purification</b>	Affinity Chromatography	Affinity Chromatography
<b>Fluorescence</b>	Excites at 468-509 nm / Emits at 504-541 nm	Excites at 486-580 nm / Emits at 568-590 nm
<b>Conjugation</b>	FITC (Fluorescein Isothiocyanate)	RD1 (Phycoerythrin)
<b>Molar Ratio</b>	FITC/Protein: 3-10	RD1/Protein: 0.5-1.5

**ANALYTE SPECIFIC REAGENT**

Analytical and performance characteristics are not established.

**ANTIBODY SPECIFICITY**

The CD4 antigen has a molecular weight of 59 kD.<sup>1-3</sup> It is present on thymocytes and the inducer T lymphocyte population in peripheral blood.<sup>2,4</sup> It is also expressed at low density on monocytes.<sup>5</sup> The CD4+ lymphocytes play a central role in regulating the immune response.<sup>6,7</sup> In peripheral blood, the CD4+ lymphocytes provide an inducer function for T-T, T-B, and T-macrophage interaction.<sup>8</sup> The CD4 antigen reacts with the class II major histocompatibility complex (MHC) antigen on target cells.<sup>2,8</sup>

The 2H4 antibody recognizes the CD45RA isoforms of the CD45 family of leukocyte antigens.<sup>1,9</sup> These isoforms contain the sequence encoded by exon A and have molecular weights of 220 and 200 kD.<sup>9</sup> The proteins are expressed on the surface of a subset of T cells, on B cells and weakly on monocytes.<sup>10</sup> CD45RA is highly expressed on CD4+ T cells which are designated as suppressor/inducer cells and which are functionally naive.<sup>11,12</sup>

The 2H4 monoclonal antibody identifies the suppressor/ inducer (CD4+CD45RA+) subpopulation of CD4 lymphocytes.<sup>9</sup>

**REAGENT CONTENTS**

The concentration of nonantibody reagents is 0.2% BSA, 0.01 M potassium phosphate, 0.15 M NaCl, 0.1% Na<sub>3</sub>N and stabilizers.

**STATEMENT OF WARNINGS**

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use reagent beyond the expiration date on vial label.
5. Minimize exposure of reagent to light during storage or incubation.
6. Avoid microbial contamination of reagents or erroneous results may occur.
7. Use Good Laboratory Practices (GLP) when handling this reagent.
8. Harmful if swallowed.
9. After contact with skin, wash immediately with plenty of water.

**STORAGE CONDITIONS AND STABILITY**

This reagent is stable to the expiration date on the vial label when stored at 2-8°C. Do not freeze. Minimize exposure to light.

**EVIDENCE OF DETERIORATION**

Any change in the physical appearance of this reagent (clear, colorless to pinkish liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

**REAGENT PREPARATION**

No preparation is necessary. This CYTO-STAT/COULTER CLONE reagent is used directly from the vial.

Bring reagent to 20-25°C prior to use.

**USAGE**

This reagent is for use with standard flow cytometry methodologies.

The use of T4-FITC and 2H4-RD1 in this reagent are not intended for the enumeration of CD4 or CD45RA cells in clinical diagnostic applications.

**SELECTED RESEARCH REFERENCES**

1. McMichael AJ, Beverley PCL, Cobbold S, Crumpton MJ, Gilks W, Gotch FM, Hogg N, Horton M, Ling N, MacLennan ICM, Mason DY, Milstein C, Spiegelhalter D and Waldman H, eds. 1987. *Leukocyte Typing III*. Oxford University Press, Oxford, UK.
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7. Morimoto C, Letvin NL, Distaso JA, Brown HM and Schlossman SF. 1986. The cellular basis for the induction of antigen-specific T8-suppressor cells. *Eur J Immunol* 16:198-204.

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12. Merckenschlager M, Terry L, Edwards R, Beverley P. 1988. Limiting dilution analysis of proliferative responses in human lymphocyte populations defined by the monoclonal antibody UCHL1: implications for differential CD45 expression in T cell memory formation. *Eur J Immunol* 18:1653-1661.
13. Takeuchi T, Rudd CF, Schlossman SF and Morimoto C. 1987. Induction of suppression following autologous mixed lymphocyte reactions: a role for novel 2H4 antigens. *Eur J Immunol* 17:97-103.
14. Morimoto C, Letvin NL, Distaso J, Aldrich WR and Schlossman SF. 1985. The isolation and characterization of the human suppressor inducer T cell subset. *J Immunol* 134:1508-1515.

**PRODUCT AVAILABILITY**

CYTO-STAT/COULTER CLONE T4-FITC/2H4-RD1  
PN 6603800 - 50 tests (0.5 mL)

RD1 is licensed under patent 4,520,110.

For additional information or if damaged product is received in the USA, call 800-526-7694. Outside the USA, contact your local Beckman Coulter Representative.

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