

# Mo-CD4/CD25/CD3

## 3 Color FCM Reagent: sc-3971



### BACKGROUND

Mouse CD4/CD25/CD3 sc-3971 is a direct immunofluorescence reagent formatted to identify and determine the percentage of mature T lymphocytes and helper/inducer T lymphocytes in erythrocyte-lysed whole blood, based on cell-surface antigen expression. CD3 identifies T lymphocytes and non-covalently associates with either  $\alpha/\beta$  or  $\gamma/\delta$  TCR (1). CD4 identifies helper/inducer T lymphocytes and binds class II MHC molecules (2). CD4 is also the primary receptor for HIV (3). Approximately 30% of normal blood lymphocytes express CD25 (4). Two-thirds of these cells are CD4+ and most are CD45RA- and are, therefore, associated with activated or memory T cells (4). CD25 also plays a critical role in the growth of T cells and is required for full expression of the normal immune response

Antigen Expression	Cell Type Identified
CD3+	Mature T Cells
CD3+ CD4+	Helper/Inducer T Cells

(5).

### STORAGE

Store at 4° C. Do not freeze. Stable for one year from the date of shipment. Protect reagents from prolonged exposure to light.

### PRODUCT

Supplied in 1.0 ml of PBS containing 0.1% azide and 0.1% gelatin. Sufficient for 50 tests. This product has been titrated for optimal performance. Recommended use is 20 uL per test (1x10<sup>6</sup> cells). **For research use only. Not for use in diagnostic procedures.**

### INSTRUMENT

Mouse CD4/CD25/CD3 sc-3971 is recommended for use with either a single or dual laser Flow Cytometer fitted with appropriate acquisition and analysis software, such as the FACSCalibur™ Flow Cytometer fitted with CellQuest™ Software by Becton Dickinson.

The flow cytometer must be equipped with a 488 nm laser and must be capable of detecting light scatter (forward and side) and three-color fluorescence with emission detectable in three ranges: 515-545 nm, 562-607 nm and >650 nm, and it must be able to threshold and discriminate using the >650 channel.

Antigen	Clone	Isotype	Label*	Detection Range (nm)
CD4	H129.19	rat IgG <sub>2a</sub>	FITC	515-545
CD25	PC61 5.3	rat IgG <sub>1</sub>	PE	562-607
CD3	145-2C11	Armenian Hamster IgG	PE-Cy5	>650

\*Fluorescent labels include FITC: Fluorescein isothiocyanate; PE: phycoerythrin; PE-Cy5: phycoerythrin-cyanin 5.

### ISOTYPE CONTROL

sc-3971 CON (rat IgG<sub>2a</sub> FITC/rat IgG<sub>1</sub> PE/Armenian Hamster IgG PE-Cy5) is the isotype matched negative control for this system and is suitable for 50 tests.

### REFERENCES

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- Gallagher, P.F., Fazekas de St. Groth, B., and Miller, J.F. 1989. CD4 and CD8 molecules can physically associate with the same T-cell receptor. *Proc. Natl. Acad. Sci. USA* **86**: 10044-10048.
- Dalgleish, A.G., Beverley, P.C.L., Clapham, P.R., Crawford, D.H., Greaves, M.F., and Weiss, R.A. 1984. The CD4 (T4) antigen is an essential component of the receptor for the AIDS retrovirus. *Nature* **312**: 763-767.
- Jackson, A.L., Matsumoto, H., Janszen, M., Maino, V., Blidy, A., and Shye, S. 1990. Restricted expression of p55 interleukin 2 receptor (CD25) on normal T cells. *Clin. Immunol. Immunopathol.* **54**: 126-33.
- Greene, W.C., Leonard, W.J., Depper, J.M., Nelson, D.L., and Waldmann, T.A. 1986. The human interleukin-2 receptor: normal and abnormal expression in T cells and in leukemias induced by the human T-lymphotropic retroviruses. *Ann. Intern. Med.* **105**: 560-572.