Mo-CD4/CD62L
2 Color FCM Reagent: *sc-3980*

BACKGROUND

Mouse CD4/CD62L: sc-3980 is a direct immunofluorescence reagent formatted to identify and determine the percentage of mature helper/inducer T cells in erythrocyte-lysed whole blood, based on cell-surface antigen expression. In immune deficiency states, helper T cells decline and suppressor T cells increase. CD4 identifies helper/inducer T lymphocytes and binds class II MHC molecules (1). CD4 is also the primary receptor for HIV (2). As HIV progresses, infected individuals exhibit a steady decrease in helper/inducer lymphocytes (3,4). CD62L is present on a subset of normal peripheral blood B lymphocytes and on most circulating T cells (5). CD62L also identifies regulatory subpopulations of T lymphocytes in both the CD4+ and CD8+ subsets (6). CD4+CD62L- lymphocytes mediate the majority of helper functions involved in B-lymphocyte differentiation into plaque-forming cells, whereas the suppressor inducer functional subpopulation is included in the CD4+CD62L+ compartment (6).

Antigen Expression	Cell Type Identified
CD4+	Helper/Inducer T Cells
CD4+ CD62L+	Suppressor Inducer Function
CD4+ CD62L-	Helper Function

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 ($1x10^6$ cells). **For research use only. Not for use in diagnostic procedures.**

INSTRUMENT

Mouse CD4/CD62L: sc-3980 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 two-color fluorescence with emission detectable in two ranges: 515-545 nm, 562-607 nm.

Antigen	Clone	Isotype	Label*	Detection Range (nm)
CD4	H129.19	rat IgG_{2a}	FITC	515-545
CD62L	lam1-116	IgG_{2a}	PE	562-607

*Fluorescent labels include FITC: Fluorescein isothiocyanate; PE: phycoerythrin

ISOTYPE CONTROL

sc-3980 CON (rat IgG_{2a} FITC/IgG_{2a} PE) is the isotype matched negative control for this system and is suitable for 50 tests.

REFERENCES

1. Gallagher, P.F., Fazekas de St Groth, B., and Miller, J.F. 1989. CD4 and CD8 molecues can physically associate with the same T-cell receptor. Proc. Natl. Acad. Sci. USA 86: 10044-10048.

2. 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 componenet of the receptor for the AIDS retrovirus. Nature 312: 763-767.

3. Landay, A., Ohlsson-Wilhelm, B., and Giorgi, J.V. 1990. Application of flow cytometry to the study of HIV infection. AIDS 4: 479-497.

4. Giorgi, J. and Hultin, L. 1990. Lymphocyte subset alterations and immunophenotyping by flow cytometry in HIV disease. Clin. Immunol. Newsletts. 10: 55-62.

5. Kansas, G.S., Wood, G.S., Fishwild, D.M., and Engleman, E.G. 1985. Functional characterization of human T lymphocyte subsets distinguished by monoclonal anti-leu-8. J. Immunol. 134: 2995-3002.

6. Gatenby, P.A., Kansas, G.S., Xian, C.Y., Evans, R.L., and Engleman, E.G. 1982. Dissection of immunoregulatory subpopulations of T lymphocytes within the helper and suppressor sublineages in man. J. Immunol. 129: 1997-2000.