Hu-CD4/CD8/CD3
3 Color FCM Reagent: *sc-2937*

BACKGROUND

Human CD4/CD8/CD3: sc-2937 is a direct immunofluorescence reagent formatted to identify and determine the percentage of mature T cells, suppressor/cytotoxic T cells and helper/inducer T cells in erythrocyte-lysed whole blood, based on cell-surface antigen expression. CD3 identifies T lymphocytes and non-covalently associates with either α/β or γ/δ TCR, which recognizes antigens associated with the MHC (1). CD8 identifies suppressor/cytotoxic T lymphocytes and binds class I MHC molecules, which enhances the activation of resting T lymphocytes (2). CD4 identifies helper/inducer T lymphocytes and binds class II MHC molecules (2). CD4 is also the primary receptor for HIV (3). CD3+CD8+ and CD3+CD4+ percentages or counts are used to characterize and monitor some forms of immunodeficiency and autoimmune disease (4,5).

Antigen Expression	Cell Type Identified
CD3+	Mature T Cells
CD3+ CD8+	Suppressor/Cytotoxic T Cells
CD3+ CD4+	Helper/Inducer T Cells

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

Human CD4/CD8/CD3: sc-2937 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	MT310	IgG_1	FITC	515-545
CD8	HIT8a	IgG_1	PE	562-607
CD3	UCH-T1	IgG_1	PE-Cy5	>650

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

ISOTYPE CONTROL

sc-2937 CON (IgG_1 FITC/IgG_1 PE/IgG_1 PE-Cy5) is the isotype matched negative control for this system and is suitable for 50 tests.

REFERENCES

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3. 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.

4. Foucar, K. and Goeken, J.A. 1982. Clinical Applications of immunologic techniques to the diagnosis of lymphoproliferative and immunodeficiency disorders. Lab. Med. 13: 403-413.

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