Mo-CD3/CD8/CD45/CD4
4 Color FCM Reagent: *sc-3964*

BACKGROUND

Mouse CD3/CD8/CD45/CD4: sc-3964 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). CD45 is a major leukocyte cell surface molecule that plays a role in pre-TCR signal transduction (3,4). The pre-TCR complex regulates the transition from CD4-CD8- double-negative to CD4+CD8+ double-positive thymocytes during T cell development (4). CD4 identifies helper/inducer T lymphocytes and binds class II MHC molecules (2). CD3+CD8+ and CD3+CD4+ percentages or counts are used to characterize and monitor some forms of immunodeficiency and autoimmune disease (5,6).

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

Mouse CD3/CD8/CD45/CD4: sc-3964 is recommended for use with a 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 635 nm and 488 nm lasers and must be capable of detecting light scatter (forward and side) and four-color fluorescence with emission detectable in four ranges: 515-545 nm, 562-607 nm, >650 nm and 652-668 nm, and it must be able to threshold and discriminate using the >650 channel.

Antigen	Clone	Isotype	Label*	Detection Range (nm)
CD3	145-2C11	Armenian Hamster IgG	FITC	515-545
CD8	53-6.7	rat IgG_{2a}	PE	562-607
CD45	MB4B4	rat IgG	PE-Cy5	>650
CD4	H129.19	rat IgG_{2a}	APC	652-668

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

ISOTYPE CONTROL

sc-3964 CON (Armenian Hamster IgG FITC/rat IgG_{2a} PE/rat IgG PE-Cy5/rat IgG_{2a} APC) is the isotype matched negative control for this system and is suitable for 50 tests.

REFERENCES

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