Hu-CD45RA/CD62L/CD3/CD4
4 Color FCM Reagent: *sc-2948*

BACKGROUND

Human CD45RA/CD62L/CD3/CD4: sc-2948 is a direct immunofluorescence reagent formatted to identify and determine the percentage of mature T cells and helper/inducer (naive and memory) T lymphocyte subsets in erythrocyte-lysed whole blood, based on cell-surface antigen expression. CD45 is a major leukocyte cell surface molecule that is essential for the activation of T and B lymphocytes (1,2). In T cells, the alternative splicing of CD45 is regulated so that naive or unprimed T cells predominantly express CD45RA-positive isoforms and switch to expression of CD45RO upon activation (3). CD62L is present on a subset of normal peripheral blood B lymphocytes and on most circulating T cells (4). CD3 identifies T lymphocytes and non-covalently associates with either α/β or γ/δ TCR, which recognizes antigens associated with the MHC (5). CD4 identifies helper/inducer T lymphocytes and binds class II MHC molecules (6).

Antigen Expression	Cell Type Identified
CD3+	Mature T Cells
CD3+ CD4+	Helper/Inducer T Cells
CD3+CD4+CD45RA+CD62L+	Helper/Inducer Naive T Cells
CD3+CD4+CD45RA-CD62L-	Helper/Inducer Memory T Cells
CD3+CD4+CD45RA-CD62L+	Helper/Inducer Memory 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 CD45RA/CD62L/CD3/CD4: sc-2948 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)
CD45RA	4KB5	IgG_1	FITC	515-545
CD62L	DREG56	IgG_1	PE	562-607
CD3	UCH-T1	IgG_1	PE-Cy5	>650
CD4	MT310	IgG_1	APC	652-668

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

ISOTYPE CONTROL

sc-2948 CON (IgG_1 FITC/IgG_1 PE/IgG_1 PE-Cy5/IgG_1 APC) is the isotype matched negative control for this system and is suitable for 50 tests.

REFERENCES

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