Hu-CD3/CD16+CD56/CD45/CD19 4 Color FCM Reagent: *sc-2919*

BACKGROUND

Human CD3/CD16+CD56/CD45/CD19: sc-2919 is a direct immunofluorescence reagent formatted to identify and determine the percentage of mature T cells, natural killer cells, and B 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 (1). CD16 is an Fc receptor for IgG expressed by NK cells and is also variably expressed in some granulocyte populations (2). CD56, or NCAM, together with CD16 account for the entire NK cell population (3). CD45 is a major leukocyte cell surface molecule (4). CD19 is present on human B lymphocytes during all stages of B cell maturation, but is lost on plasma cells (5). NK cells identified as $CD3^-$ and $CD16^+$ and/or $CD56^+$ mediate cytotoxicity against certain tumors and virus infected cells (3). The total population of T lymphocytes and B lymphocytes are used to characterize and monitor some forms of immunodeficiency and autoimmune disease (6,7).

Antigen Expression	Cell Type Identified
CD3+	Mature Human T Cells
CD3- CD16+ CD56+	Natural Killer (NK) Cells
CD3- CD19+	Total B lymphocytes

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 CD3/CD16+CD56/CD45/CD19: sc-2919 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	UCH-T1	IgG_1	FITC	515-545
CD16	3G8	IgG_1	PE	562-607
CD56	123C3	IgG_1	PE	562-607
CD45	2D-1	IgG_1	PE-Cy5	>650
CD19	SJ25C1	IgG_1	APC	652-668

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

ISOTYPE CONTROL

sc-2919 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.

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