

Hu-CD3/CD16+CD56

3 Color FCM Reagent: sc-3951



BACKGROUND

Human CD3/CD16+CD56: sc-3951 is a direct immunofluorescence reagent formatted to identify and determine the percentage of human T lymphocytes and natural killer (NK) lymphocytes 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 lymphocytes and is also variably expressed in some granulocyte populations (2). CD56, or NCAM, together with CD16 account for the entire NK lymphocyte population (3). NK lymphocytes identified as CD3⁻ and CD16⁺ and/or CD56⁺ mediate cytotoxicity against certain tumors and virus infected cells (3). NK mediated cytotoxicity does not require class I or II MHC molecules to be present on the cell (4). CD56 density increases when NK cells are activated (5).

Antigen Expression	Cell Type Identified
CD3 ⁺	Mature T Cells
CD3 ⁻ CD16 ⁺	Natural Killer (NK) Cells
CD3 ⁻ CD56 ⁺	Natural Killer (NK) 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 μ L per test (1×10^6 cells). **For research use only. Not for use in diagnostic procedures.**

INSTRUMENT

Human CD3/CD16+CD56: sc-3951 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 and 562-607 nm.

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

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

ISOTYPE CONTROL

sc-3951 CON (IgG₁ FITC/IgG₁ PE) is the isotype matched negative control for this system and is suitable for 50 tests.

REFERENCES

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- Lanier, L.L., Le, A.M., Civin, C.I., Loken, M.R., and Phillips, J.H. 1986. The relationship of CD16 (Leu-11) and Leu-19 (NKH-1) antigen expression on human peripheral blood NK cells and cytotoxic T lymphocytes. *J. Immunol.* **136**: 4480-4486.
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