

PN IM2654 CD56 - PC5

100 tests
10 µL/test

(N901-NKH1-)

IO Test[®]
Conjugated Antibodies

For Research Use Only. Not for use in diagnostic procedures.

SPECIFICITY

The molecular weight of the CD56 antigen (NKH1 molecule) is 200-220 kDa (1,2). This heavily glycosylated protein has a core structure virtually identical to the one of the 140-kDa isoform of human neuronal cellular adhesion molecule (N-CAM) (3).

The CD56 antigen is expressed on a subpopulation of peripheral blood lymphocytes (PBL) that demonstrate non-major histocompatibility complex (non-MHC) restricted cytotoxicity (1, 4).

The N901 (NKH-1) monoclonal antibody reacts with the majority of NK cells (1,2). It also reacts with a subpopulation of CD3+ T cells that represents less than 5% of peripheral blood T lymphocytes in individuals, and that mediates reduced cytotoxic activity (4).

This antibody does not react with monocyte, granulocyte, erythrocyte or B lymphocyte populations.

More than 95% of cells capable of mediating spontaneous non-MHC restricted cytotoxicity in peripheral blood are contained within the 10-12% of PBL that express NKH1 in normal individuals. The N901 (NKH-1) antibody reacts with about two to three times more PBL from young adults (30 ± 4 years) than from elderly subjects (83 ± 5 years) (5).

The N901 (NKH-1) antibody has been assigned to the CD56 cluster of differentiation during the IVth International Workshop on Human Leucocyte Differentiation Antigens in Vienna, 1989 (6).

REAGENT

Clone N901(NKH1)
Isotype IgG1
Immunogen Human chronic myeloid leukemia cells
Hybridoma NS1/1-Ag4 x Balb/c spleen cells
Source Ascites fluid
Purification Ion exchange or affinity chromatography
Conjugation PC5: The IgG is conjugated to a tandem dye constituted of R-phycoerythrin covalently linked to cyanin 5.1 at 0.7-1 mole of PC5 per mole of IgG.
Excitation wavelength: 488 nm
Maximum emission wavelength: 670 nm
Main emission color: Deep-red
Buffer 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

APPLICATION

Flow cytometry research studies for the detection and/or enumeration of large granular lymphocytes and NK cells, in normal and disease states.

Studies of the CD56-positive subpopulation of T cells.

STATEMENT OF WARNINGS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.

STORAGE CONDITIONS AND STABILITY

Each reagent is stable up to the expiration date when stored at 2-8 °C. Do not freeze. Minimize exposure to light.

REAGENT PREPARATION

No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 20 - 25 °C prior to use.

PROCEDURE

This reagent is designed for Flow Cytometry.

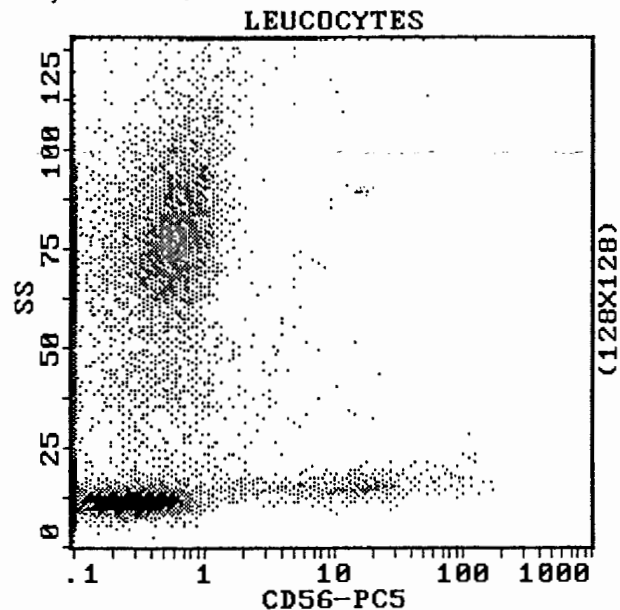
Assay volume: 10 µL/5 x 10⁵ cells / test or 100µL whole blood.

A wash is required to yield optimal results.

EXAMPLE DATA

The histograms below are biparametric representations (Side Scatter versus Fluorescence Intensity) of lysed normal whole blood sample. Staining is with CD56-PC5 monoclonal antibody (PN IM2654). Gate is on leucocytes. The isotypic control (PN IM2663) labeling is not shown.

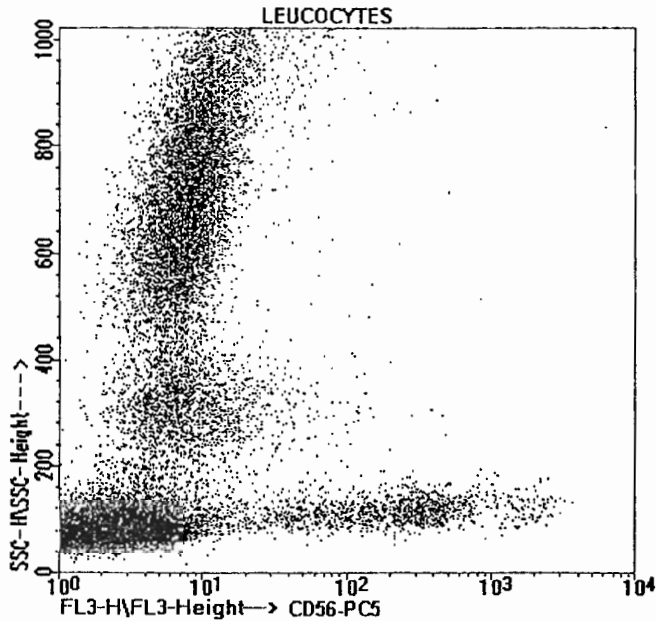
Acquisition is with a COULTER R EPICS R XL TM flow cytometer. Analysis is with the XL SYSTEM II TM software.



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PN IM2654**CD56 - PC5****(N901-NKH1-)****100 tests****10 µL/test****For Research Use Only. Not for use in diagnostic procedures.**

Acquisition is with a Becton Dickinson FACScan TM flow cytometer.
Analysis is with the LYSYS II TM software.

**SELECTED RESEARCH REFERENCES**

- 1-[203] Griffin, J.D., Hercend, T., Beveridge, R., Schlossman, S.F., "Characterization of an antigen expressed by human natural killer cells", 1983, *J. Immunol.*, 130, 2947-2951.
- 2-[204] Hercend, T., Griffin, J.D., Bensussan, A., Schmidt, R.E., Edson, M.A., Brennan, A., Murray, C., Daley, J.F., Schlossman, S.F., Ritz, J., "Generation of monoclonal antibodies to a human natural killer clone: characterization of two natural killer-associated antigens, NKH1A and NKH2, expressed on subsets of large granular lymphocytes", 1985, *J. Clin. Invest.*, 75, 932-943.
- 3-[205] Lanier, L.L., Chang, C., Azuma, M., Ruitenberg, J.J., Hemperly, J.J., Phillips, J.H., "Molecular and functional analysis of human natural killer cell-associated neural cell adhesion molecule (N-CAM/CD56)", 1991, *J. Immunol.*, 12, 146, 4421-4426.
- 4-[206] Lanier, L.L., Le, A.M., Civin, C.I., Loken, M.R., Phillips, J.H., "The relationship of CD16 (Leu-11) and Leu-19 (NKH-1) antigen expression on human peripheral blood NK cells and cytotoxic T lymphocytes", 1986, *J. Immunol.*, 136, 4480-4486.
- 5-[207] Mariani, E., Cattini, L., Piacentini, A., Sgobbi, S., Facchini, A., "Distribution of Workshop NK-cell and CD56 mAb in human peripheral blood lymphocytes during ageing", 1995, *Leucocyte Typing V, White Cell Differentiation Antigens*. Schlossman, S.F., et al., Eds., Oxford University Press, p. 1394-1397.
- 6-[208] Schubert, J., Lanier, L.L., Schmidt, R.E., "Cluster report: CD56", 1989, *Leucocyte Typing IV, White Cell Differentiation Antigens*. W. Knapp, et al., Eds., Oxford University Press, p. 699-702.

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