PN IM3657 CD160-PE (BY55)

100tests
20 µL/test

IOTest®
Conjugated Antibodies

For Research Use Only. Not For Use In Diagnostic Procedures.

SPECIFICITY

The CD160 molecule (BY55 antigen (1)) is a 27-kDa, glycosyl-phosphatidylinositol (GPI)-anchored glycoprotein of 181 amino acids, with a single immunoglobulin-like domain (2). The molecule contains 2 potential sites for N-glycosylation and is rich in cysteine (6 residues in the mature polypeptide), indicating an important capacity for forming intra- and interchain disulfide bonds, which likely support the disulfide-linked multimeric (80 kDa) expression at the cell surface (2). Its expression is highly restricted to circulating cytotoxic T and NK cells, and in tissues, to intestinal intraepithelial lymphocytes, as revealed by CD160 mRNA blot analysis (2) and various phenotyping studies (1, 3, 4).

In peripheral blood, CD160-positive cells consist of a majority of CD3-negative / TCR γδ-positive NK cells, which is significantly reduced in HIV-positive individuals, and of a minority of CD3-positive / CD8bright T lymphocytes, which is significantly increased in HIV-positive individuals (2, 4).

In bone marrow, CD160-positive cells, though less abundant than in adult peripheral blood, also consist of the two populations observed in peripheral blood (5).

In cord blood, CD160-positive cells consist of a unique CD3-negative / TCR-negative NK cell population, 80% of these cells being CD56-positive (5).

CD160 is a ligand for classical and non-classical MHC-class I molecules (6). The ligation of MHC-class I by CD160 provides a costimulatory signal restricted to peripheral blood activated T cells, suggesting a pathway being additional and/or alternative to the CD28 costimulation mechanism. This pathway may be relevant in memory T cells that lack CD28, such as the intestinal intraepithelial lymphocytes (6).

The BY55 monoclonal antibody, was initially reported to react with a protein structure of 80 kDa exclusively expressed by circulating cytotoxic lymphocytes (1). It does not block the binding of the CD160 molecule to MHC-class I molecules (6). BY55 was assigned to the CD160 cluster of differentiation at the 7th International Workshop on Human Leucocyte Differentiation Antigens in Harrogate, UK (2000) (http://gryphon.jr2.ox.ac.uk/cdlist.htm).

REAGENT

Clone	BY55
Isotype	IgM, mouse
Immunogen	YT2C2 human leukemia cell line, with NK activity
Hybridoma	NS1 x Balb/c
Source	Ascites fluid
Purification	Gel filtration
Conjugation	R-phycoerythrin (PE) is conjugated at 0.5 – 1.5 moles of PE per mole of Ig. Excitation wavelength: 488 nm Maximum emission wavelength: 575 nm Main emission color: Orange-red
Buffer	2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

APPLICATION

Flow Cytometry (1 – 6).

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 18 – 25°C prior to use.

PROCEDURE

This reagent is designed for flow cytometry.

Assay volume: 20 µL per 5 x 10^5 cells in one test, or per 100 µL whole blood.

A wash is required to yield optimal results.

SELECTED RESEARCH REFERENCES

1. Maïza, H., Leca, G., Mansur, I.G., Schiavon, V., Boumsell, L., Bensussan, A., "A Novel 80-kD Cell Surface Structure Identifies Humann Circulating Lymphocytes with Natural Killer Activity", 1993,J. Exp. Med., 178,1121-1126.
2. Anumanthan, A., Bensussan, A., Boumsell, L., Christ, A.D., Blumberg, R.S., Voss, S.D., Patel, A.T., Robertson, M.J., Nadler, L.M., Freeman, G.J., " Cloning of BY55, a Novel Ig Superfamily Member Expressed on NK Cells, CTL, and Intestinal Intraepithelial Lymphocytes", 1998, J. Immunol., 161,2780-2790.
3. Schiavon, V., Roth, P., Bolton, W.E., Farcet, J.P., Bensussan, A., Boumsell, L., "Lymphocytes subsets in normal individuals: analysis by four color immunofluorescence and flow cytometry on whole blood", 1996, Tissue Antigens,, 48,312-318.
4. Bensusssan, A., Rabian, C., Schiavon, V., Bengoufa, D., Leca, G., Boumsell, L., "Significant enlargement of a specific subset of CD3+CD8+ peripheral blood leukocytes mediating cytotoxic T-lymphocyte activity during human immunodeficiency virus infection", 1993, Immunol., 90,9427-9430.
5. Bensussan, A., Gluckman, E., EL Marsafy, S., Schiavon, V., Mansur, I.G., Dausset, J., Boumsell, L., Carosalla, E., " BY55 monoclonal antibody delineates within human cord blood and bone marrow lymphocytes disinct cell subsets mediating cytotoxix activity", 1994, Immunol., 91,9136-9140.
6. Agrawal, S., Marquet, J., Freeman, G.J., Tawab, A., Le Bouteiller, P., Roth, P., Bolton, W., Ogg, G., Boumsell, L., Bensussan, A., "Cutting Edge: MHC Class I Triggering by a Novel Cell Surface Ligand Costimulates Proliferation of Activated Human T Cells", 1999, J. Immunol.,162,1223-1226.

3657EX261101 Vers.01 27/11/01 AC-01-1757