Monoclonal Antibodies
Detecting Human Antigens

CD57 (HNK-1)

Research applications* include:

- Studies of natural killer (NK) lymphocyte–mediated cytotoxicity
- Studies of functional properties of NK and T-lymphocyte subsets
- Definition of subsets of CD8+ lymphocytes
- Studies of neural tissue glycoproteins
- Studies of small cell lung carcinoma
- Studies of acquired immunodeficiency syndrome (AIDS) and AIDS-related complex (ARC) (See the BD Simultest™ CD57/CD8 data sheet for more information.)

DESCRIPTION

Specificity

The CD57 (Leu-7) antibody recognizes a 110 kilodalton (kDa) glycoprotein that is expressed on a subset of NK lymphocytes and T lymphocytes. The antigen is a carbohydrate structure associated with myelin-associated glycoprotein (MAG).

Antigen distribution

The CD57 antigen is present on 15% to 20% of normal peripheral blood mononuclear cells (PBMCs). It is expressed on a subset of NK lymphocytes and on a subset of T lymphocytes. CD57 reacts with MAG in neuroectodermal tissue as well as cells of small cell lung carcinoma.

Clone

The CD57 antibody, clone HNK-1, is derived from hybridization of P3-X63-Ag8.653 mouse myeloma cells with lymph node cells from BALB/c mice immunized with membrane extracts of the HSB-2 T–lymphoblastoid cell line.

Composition

CD57 is composed of mouse IgM heavy chains and kappa light chains.

Product configuration

The following are supplied in phosphate buffered saline (PBS) containing a stabilizer and a preservative.

<table>
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<tr>
<th>Form</th>
<th>Catalog number</th>
<th>Volume per test (µL)</th>
<th>Amount provided (µg)</th>
<th>Total volume (mL)</th>
<th>Concentration (µg/mL)</th>
<th>Stabilizer</th>
<th>Preservative</th>
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</tbody>
</table>

* Volume required to stain 10^6 cells.

* The published methods in the cited references have not been developed or tested by Becton Dickinson.

For Research Use Only. Not for use in diagnostic or therapeutic procedures.
PROCEDURE

Visit our website (bdbiosciences.com) or contact your local BD representative for the lyse/wash protocol for direct immunofluorescence.

Method for single-color direct immunofluorescence

Add 20 µL of reagent to 10^6 PBMCs in 50 µL of medium containing 0.1% sodium azide. Mix thoroughly and incubate for 15 to 30 minutes in the dark at 2°C–8°C. Wash with 1X PBS with 0.1% sodium azide, add 0.5 mL of 1% paraformaldehyde, mix thoroughly, and analyze. If samples are not to be analyzed immediately, mix thoroughly just prior to analysis. See the Becton Dickinson procedure, Direct Immunofluorescence Staining of Cell Surfaces, Monoclonal Antibodies Source Book, Section 2.4.

Representative data

Flow cytometric analysis was performed on PBMCs with scatter gates set on the lymphocyte fraction. Laser excitation was at 488 nm. Representative data analyzed with a BD FACScan™ brand flow cytometer is shown in the following figure.

Figure 1  Single-parameter display of peripheral blood lymphocytes analyzed with a BD FACScan™ flow cytometer (logarithmic fluorescence intensity)

Method for single-color indirect immunofluorescence

Add 20 µL of reagent to 10^6 PBMCs in 50 µL of medium containing 0.1% sodium azide. Mix thoroughly and incubate for 15 to 30 minutes in the dark at 2°C–8°C. Wash with 1X PBS with 0.1% sodium azide, add diluted Goat Anti-Mouse (GAM) Ig FITC (Cat. No. 349031), mix thoroughly, and incubate for 15 to 30 minutes in the dark at 2°C–8°C. Wash with 1X PBS with 0.1% sodium azide, add 0.5 mL of 1% paraformaldehyde, mix thoroughly, and analyze. If samples are not to be analyzed immediately, mix thoroughly just prior to analysis. See the Becton Dickinson procedure, Indirect Immunofluorescence Staining of Cell Surfaces, Monoclonal Antibodies Source Book, Section 2.5.

Representative data

Flow cytometric analysis was performed on PBMCs with scatter gates set on the lymphocyte fraction. Laser excitation was at 488 nm. Representative data analyzed with a BD FACS brand flow cytometer is shown in the following figure.
Figure 2  Single-parameter display of peripheral blood lymphocytes analyzed with a BD FACScan flow cytometer (logarithmic fluorescence intensity)

HANDLING AND STORAGE
Store vials at 2°C–8°C. Conjugated forms should not be frozen. Protect from exposure to light. Each reagent is stable until the expiration date shown on the bottle label when stored as directed.

WARNING
All biological specimens and materials coming in contact with them are considered biohazards. Handle as if capable of transmitting infection and dispose of with proper precautions in accordance with federal, state, and local regulations. Never pipette by mouth. Wear suitable protective clothing, eyewear, and gloves.

CHARACTERIZATION
To ensure consistently high-quality reagents, each lot of antibody is tested for conformance with characteristics of a standard reagent. Representative flow cytometric data is included in this data sheet.

WARRANTY
Unless otherwise indicated in any applicable BD general conditions of sale for non-US customers, the following warranty applies to the purchase of these products.

REFERENCES


PATENTS AND TRADEMARKS

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