**Monoclonal Antibodies Detecting Human Antigens**

# CD56 (NCAM16.2)

| Form | Catalog number |
|---|---|
| FITC | 340410 |
| PE | 340363 |
| PE-Cy7 | 335791 |
| APC | 341025 |
| APC-R700 | 657886 |

Product availability varies by region. Contact BD Biosciences Customer Support or your local sales representative for information.

## RESEARCH APPLICATIONS

Research applications include:

- Enumeration of resting and activated natural killer (NK) lymphocytes[1-4]
- Determination of non–major histocompatibility complex (MHC)-restricted cytotoxic T lymphocytes[2,5,6]
- Examination of NK-cell activation[7]
- Analysis of NK-cell cytotoxicity[2,8]

## DESCRIPTION

**Specificity**

The CD56 antibody recognizes a heavily glycosylated 140-kilodalton (kDa) isoform of Neural cell adhesion molecule (NCAM), a member of the immunoglobulin (Ig) superfamily. The CD56 antibody also recognizes 180-kDa and 120-kDa isoforms of Neural cell adhesion molecule NCAM found in neurons and muscle, respectively.[9]

**Antigen distribution**

The CD56 antigen is present on approximately 10% to 25% of peripheral blood lymphocytes.[10] It is present on essentially all resting and activated $CD16^+$ NK lymphocytes. The density of the CD56 antigen on NK cells increases upon activation.[4] The CD56 antigen is also expressed on approximately 5% of $CD3^+$ peripheral blood lymphocytes.[10] $CD3^+CD56^+$ T lymphocytes comprise a unique subset of cytotoxic T lymphocytes that mediates non–MHC-restricted cytotoxicity.[6]

$CD16^+CD56^+$ NK cells and dendritic cells activate one another in a reciprocal fashion.[7] The CD56 antigen promotes homophilic adhesion in neurons,[11] and may be involved in homophilic adhesion of NK cells.[5]

**Clone**

The CD56 antibody, clone NCAM16.2,[12] is derived from the hybridization of P3-X63-Ag8.653 mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with immunoaffinity-enriched NCAM from detergent extracts of adult human brain.[3]

**Composition**

The CD56 antibody is composed of mouse $IgG_{2b}$ heavy chains and kappa light chains.

**Product configuration**

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

| Form | Number of tests | Volume per test (µL)[a] | Amount provided (µg) | Total volume (mL) | Concentration (µg/mL) | Stabilizer | Preservative |
|---|---|---|---|---|---|---|---|
| FITC | 50 | 20 | 6 | 1.0 | 6 | Gelatin | 0.1% Sodium azide |
| PE | 50 | 20 | 12.5 | 1.0 | 12.5 | Gelatin | 0.1% Sodium azide |

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

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| Form | Number of tests | Volume per test (µL)[a] | Amount provided (µg) | Total volume (mL) | Concentration (µg/mL) | Stabilizer | Preservative |
|---|---|---|---|---|---|---|---|
| PE-Cy™7 | 100 | 5 | 12.5 | 0.5 | 25 | Gelatin | 0.1% Sodium azide |
| APC | 100 | 5 | 6 | 0.5 | 12 | Gelatin | 0.1% Sodium azide |
| APC-R700[b] | 100 | 5 | 12.5 | 0.5 | 25 | BSA | ProClin® 300 |

a. Volume required to stain $10^6$ cells.
b. BD Horizon™ APC-R700.

**CAUTION** Some PE-Cy7 and APC-R700 conjugates show changes in their emission spectra with prolonged exposure to paraformaldehyde or light. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

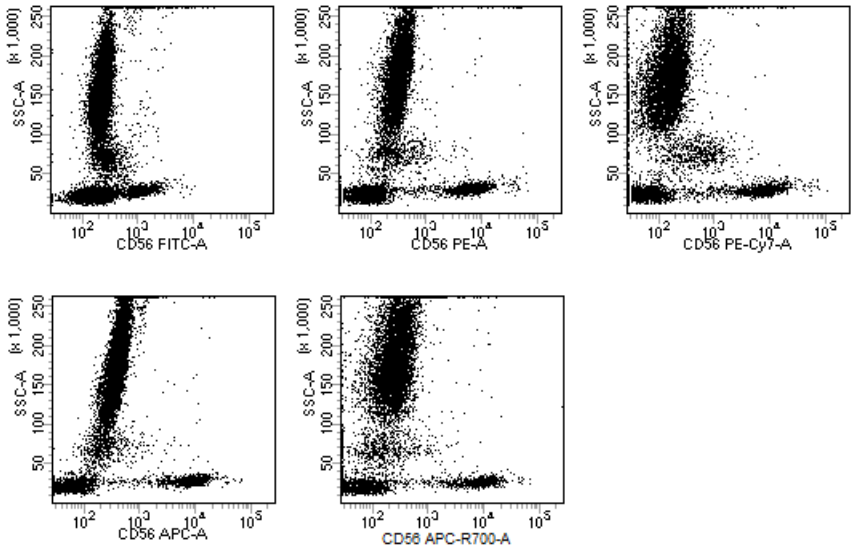
## PROCEDURE

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

## REPRESENTATIVE DATA

Flow cytometric analysis was performed on peripheral blood stained with the indicated conjugated antibody and gated on $CD3^-$ lymphocytes. Laser excitation was at 488 nm, 635 nm, or 640 nm.

The APC-R700 conjugate is read off the red laser (640 nm) using a 685 longpass mirror with a 712/21 bandpass filter. Representative data analyzed with a BD FACS™ brand flow cytometer is shown in the following plots.




## 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[13,14] 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.

Some reagents are bottled with ProClin 300, and contain 0.003% of a mixture of CMIT/MIT (3:1), CAS number 55965-84-9.

**Warning**

H317 May cause an allergic skin reaction.

Wear protective gloves/eye protection. Wear protective clothing. Avoid breathing mist/vapours/spray. If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. Dispose of contents/container in accordance with local/regional/national/international regulations.

## 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.

THE PRODUCTS SOLD HEREUNDER ARE WARRANTED ONLY TO CONFORM TO THE QUANTITY AND CONTENTS STATED ON THE LABEL OR IN THE PRODUCT LABELING AT THE TIME OF DELIVERY TO THE CUSTOMER. BD DISCLAIMS HEREBY ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE AND NONINFRINGEMENT. BD'S SOLE LIABILITY IS LIMITED TO EITHER REPLACEMENT OF THE PRODUCTS OR REFUND OF THE PURCHASE PRICE. BD IS NOT LIABLE FOR PROPERTY DAMAGE OR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING PERSONAL INJURY, OR ECONOMIC LOSS, CAUSED BY THE PRODUCT.

## REFERENCES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## PATENTS AND TRADEMARKS