Monoclonal Antibodies
Detecting Human Antigens

CD27 (L128)

Form          Catalog number
FITC           340424
PE             340425
APC            337169
PerCP-Cy5.5    656643

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

RESEARCH APPLICATIONS

Research applications include:
• Research on T-lymphocyte activation and differentiation¹⁻³
• Studies of B-lymphocyte differentiation and immunoglobulin secretion⁴,⁵
• Studies of T-lymphocyte priming and recall memory¹,⁶,⁷
• Research on elevated serum IgE production⁸
• Research on T lymphocytes and their response to infection⁸⁻¹¹
• Enumeration of T-cell subsets in vaccine response¹²
• Studies of T-cell response in human immunodeficiency virus (HIV) infection¹³

DESCRIPTION

Specificity
The CD27 antibody recognizes a 110–120-kilodalton (kDa) disulfide-linked homodimer comprised of two 55-kDa polypeptide chains. The CD27 antigen is a lymphocyte-specific member of the tumor necrosis factor receptor (TNFR) super family,¹⁴,¹⁵ which also includes nerve growth factor receptor, CD30, CD40, CD95 (Fas), CD120a, CD120b, CD134 (OX 40), and CD137.¹⁶,¹⁷ The CD27 antigen is also known as S152, T14, TNFRSF7, and Tp55.

Antigen distribution
The CD27 antigen is present on most peripheral blood T lymphocytes and medullary thymocytes, and is upregulated upon activation¹⁴,¹⁵ with the release of a soluble form, 28–32 kDa.¹⁸ Following exposure to antigens, CD45RA⁺ T lymphocytes respond by upregulating the CD27 antigen.¹ After maximal stimulation, the CD27 antigen cannot be re-expressed on long-term cultures or on CD45RA⁺CD27⁺ T lymphocytes.¹,² It is also detected on a subpopulation of approximately 33% of circulating B lymphocytes and on some natural killer (NK) cells.¹⁰,¹⁹ Two subpopulations of B lymphocytes bearing the CD27 antigen secrete Ig(M) (δ⁺) and IgG (δ⁻).⁵

Binding of the CD27 antigen, expressed on T cells, to its ligand, CD70 (CD27L),²⁰,²¹ provides a co-stimulatory signal, leading to T-cell proliferation, production of cytotoxic T cells, and enhanced production of cytokines.²,²²⁻²⁴ Binding of CD70 to CD27 expressed on B cells leads to B-cell proliferation and immunoglobulin production.²³ The CD27 antigen becomes hyperphosphorylated on serine residues upon activation of T cells.²⁵,²⁶ Signaling through the CD27 antigen activates NFκB and stress-activated protein kinase (SAPK)/c-Jun N-terminal kinase (JNK).²⁷

Clone
The CD27 antibody, clone L128,²⁸ is derived from the hybridization of Sp2/0 mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with activated peripheral blood lymphocytes.

Composition
The CD27 antibody is composed of mouse IgG₁ heavy chains and kappa light chains.

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

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

<table>
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<th>Form</th>
<th>Number of tests</th>
<th>Volume per test (µL)</th>
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<th>Total volume (mL)</th>
<th>Concentration (µg/mL)</th>
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a. Volume required to stain 10^6 cells.

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 lymphocytes. Laser excitation was at 488 nm or 635 nm. Representative data analyzed with a BD FACSTM 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 infection29,30 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

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REFERENCES


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