



CD44 (L178)

Form Catalog number
FITC 347943

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

RESEARCH APPLICATIONS

Research applications* include studies of:

- Cell adhesion¹⁻³
- Lymphocyte homing⁴
- T-lymphocyte activation^{1,3}

DESCRIPTION

Specificity

The CD44 (Leu-44) antibody recognizes a cell-surface glycoprotein that exists in a variety of isoforms.⁵ It is synthesized as a molecule with a molecular weight of 37 kilodaltons (kDa). Upon glycosylation, it is converted to an 80- to 95-kDa form. Alternatively, a 180- to 200-kDa form results from the addition of chondroitin sulfate.^{1,2,4}

Antigen distribution

The CD44 antigen is present on approximately 90% of lymphocytes, monocytes, and granulocytes and in lower amounts on thymocytes, fibroblasts, and erythrocytes.^{1,6,7} The antigen mediates a variety of functions, including leucocyte-endothelial cell binding and lymphocyte homing to certain peripheral lymphoid microenvironments.⁴ Soluble circulating CD44 antigen may regulate CD44 antigen-mediated cell interactions. On leucocytes, the CD44 antigen is involved in cell adhesion and T-lymphocyte activation.^{1-3,7} Binding of some CD44 antibodies to monocytes and T lymphocytes augments both CD2/CD58- and CD18/CD11a/CD54-mediated T-lymphocyte-monocyte adhesion and induces activation of mature T lymphocytes.¹⁻³ Up regulation of CD44 antigen density occurs early in T-lymphocyte activation via the CD3 antigen/T-cell receptor (TCR) complex.³ Although the CD44 antigen is expressed in varying densities throughout T-lymphocyte ontogeny, peripheral blood T lymphocytes express the highest levels of the CD44 antigen.^{1,8} On fibroblasts, the CD44 antigen is involved in cell motility and adhesion to components of the extracellular matrix, such as collagen and fibronectin.¹⁻³ On erythrocytes and a subset of monocytes, the expression of CD44 antigen is regulated by the In(Lu) gene.^{1,7} The CD44 antigen is a cellular receptor for hyaluronic acid.⁹

Clone

The CD44 antibody, clone L178, is derived from hybridization of Sp2/0 myeloma mouse cells with spleen cells from BALB/c mice immunized with TCR- γ/δ^+ thymocytes.

Composition

The CD44 antibody is composed of mouse IgG₁ heavy chains and kappa light chains.

* 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.

Product configuration

The following reagents 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	100	20	25	2.0	12.5	Gelatin	0.1% Sodium azide

a. Volume required to stain 10^6 cells.

PROCEDURE

Method for single-color direct immunofluorescence

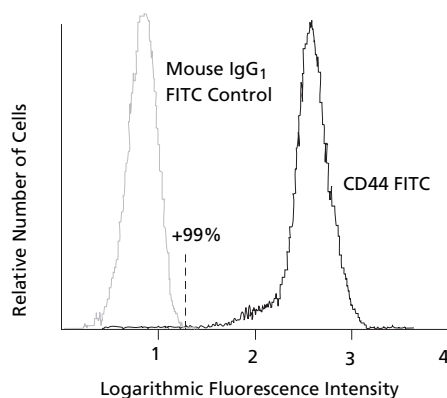
Visit our website (bdbiosciences.com) or contact your local BD representative for the lyse/wash protocol for direct immunofluorescence.

Add 20 μL of reagent to 10^6 peripheral blood mono-nuclear cells (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 Becton Dickinson *Procedure for Direct Immunofluorescence Staining of Cell Surfaces*, 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.

Figure 1 Single-parameter display of peripheral blood lymphocytes analyzed with a BD FACScan™ flow cytometer



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^{10,11} 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.

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