

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

## SPECIFICITY

The CD22 is a single chain, type I transmembrane molecule with a molecular weight of 130 – 140 kDa composed by seven Immunoglobulin-like (Ig-like) domains (1). Because these domains, pertaining to the immunoglobulin superfamily (IgSF), show sialic acid binding protein properties, CD22 is a member of the sialoadhesin family (2). The N-terminal domain distal to the membrane is a V-type Ig domain whereas the others six domains proximal to the membrane are C2-type Ig domains (2). The cytoplasmic domain of CD22 includes six tyrosines that are possible targets for phosphorylation. Some regions of the intracytoplasmic tail present homology to the tyrosine-based activation motifs (ITAM) and some others with the tyrosine-based inhibition motifs (ITIM) (2, 3). CD22 appears constitutively associated with the B cell antigen receptor (BCR) and this may involve CD22 recognition of IgM carbohydrate determinants (4 – 6). The CD22 mediates adhesion in B – B lymphocytes interactions, and interactions between B cells and erythrocytes or leucocytes (2, 5, 7, 8).

The CD22 antigen is detected in the cytoplasm as early as late pro-B stage during B cell ontogeny. It then appears on the cell surface as the same time as membranous IgD. CD22 antigen is found on most mature B lymphocytes (1). It is lost during the terminal stages of differentiation leading to plasma cells (1). On peripheral whole blood, the expression of CD22 antigen is restricted to B lymphocytes.

The SJ10.1H11 monoclonal antibody has been assigned to the CD22 cluster of differentiation at the 2nd International Workshop on Human Leukocyte Differentiation Antigens (HLDA), held in Boston, USA, in 1984 (WS Code: 40, Section B) (9).

## REAGENT

IOTest CD22-PC5 Conjugated Antibodies  
PN IM3704 – 100 tests – 10 µL/test

**Clone** SJ10.1H11  
**Isotype** IgG1, mouse  
**Immunogen** Human leukemias NALM1  
**Hybridoma** SP2/0 x Balb/c  
**Source** Ascites fluid  
**Purification** Ion exchange or affinity chromatography  
**Conjugation** The Ig is conjugated to a tandem dye constituted of R-phycoerythrin covalently linked to cyanin 5.1 (PC5) at 0.5 – 1.5 moles of PC5 per mole of Ig.

Excitation wavelength: 488 nm  
Maximum emission wavelength: 670 nm  
Main emission color: Deep-red

**Buffer** 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

## APPLICATION

Flow cytometric study of B lymphocyte maturation profile.

Flow cytometric analysis of CD22 antigen expression in neoplasia of the B lineage. The SJ10.1H11 monoclonal antibody is optimized for CD22 membrane staining procedure.

## 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

This 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.

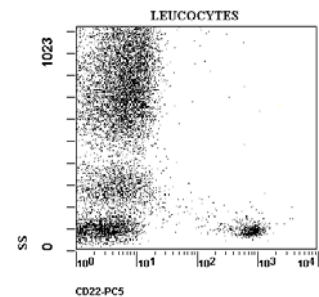
## PROCEDURE

This reagent is designed for Flow Cytometry. Assay volume: 10 µL per 5 x 10<sup>5</sup> cells in one test, or per 100 µL whole blood. A wash is required to yield optimal results.

## EXAMPLE DATA

The graph below is a biparametric representation (Side Scatter *versus* Fluorescence Intensity) of a lysed normal whole blood sample. Staining is with CD22-PC5 conjugated antibody (PN IM3704). Gate is on all leucocytes. The isotypic control (PN IM2663) labeling is not shown.

Acquisition is with a COULTER<sup>®</sup> EPICS<sup>®</sup> XL™ flow cytometer. Analysis is with the Beckman Coulter EXPO 32 software.



## SELECTED RESEARCH REFERENCES

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7. Lynn Wilson, G., "Genomic structure and chromosomal mapping of the human CD22 gene", 1993, J. Immunol., 11, 150, 5013.
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9. Nadler, L.M., "B cell / Leukemia panel workshop: Summary and comments", 1986, Leucocyte Typing II, Vol 2, Human B lymphocytes, Reinherz, E.L., et al. Eds., Springer-Verlag, 4-43.

## PRODUCT AVAILABILITY

IOTest CD22-PC5 Conjugated Antibodies  
PN IM3704 – 100 tests – 10 µL/test  
PE is licensed under patent 4,520,110

For additional information in the USA, call 800-526-7694.

Outside the USA, contact your local Beckman Coulter representative.

## TRADEMARKS

IOTest is a registered trademark of Immunotech S.A.

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