

**Analyte Specific Reagent.**

Analytical and performance characteristics are not established.

**SPECIFICITY**

The CD38 antigen is a 45 kDa single-chain type II glycoprotein. It is an integral membrane protein with a long extracellular C-terminal domain, a single membrane-spanning region and a short N-terminal cytoplasmic tail (1, 2).

The CD38 antigen is expressed on a variety of hematopoietic cells, and its distribution depends on the state of the cell differentiation and the cell activation. In adults, the CD38 molecule is expressed on earlier stage of B lymphocyte ontogeny, lost during maturation and re-expressed upon terminal differentiation to plasma cells. This molecule is also strongly expressed on thymocytes, but is found at low density on resting T lymphocytes (1). It is expressed on the majority of resting NK cells and monocytes, and is also found on platelets (3), and red blood cells (4).

The LS198 monoclonal antibody was assigned to the CD38 cluster of differentiation at the 5th International Workshop on Human Leukocyte Differentiation Antigens in Boston, USA, in 1993 (WS Code: T-CD38.06, Section T) (5).

**REAGENT**

IOTest CD38-PC7 Conjugated Antibody  
PN A54189 – 0.5 mL Liquid – 10 µL/test\*.

<b>Clone</b>	LS198-4-3
<b>Isotype</b>	IgG1, mouse
<b>Immunogen</b>	Human T cell line HUT 78
<b>Hybridoma</b>	SP2 x Balb/c
<b>Source</b>	Ascites fluid
<b>Purification</b>	Ion exchange or affinity chromatography
<b>Conjugation</b>	PC7 (Phycoerythrin-Cyanine 7)
<b>Molar Ratio</b>	PC7 / protein: 0.5 – 1.5
<b>Fluorescence</b>	
PC7 (far red)	Excites at 486 – 580 nm Emits at 750 – 810 nm
<b>Buffer</b>	2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

**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. All specimens and samples must be considered as potentially infectious and must be handled with care (in particular: the wearing of protective gloves, gowns and goggles).
3. Do not expose reagents to strong light during storage or incubation.
4. Avoid microbial contamination of reagents or incorrect results might occur.
5. Avoid contact of samples with skin mucosa and eyes. Never pipet by mouth
6. Do not use reagent beyond the expiration date on the vial label.
7. Let it come to room temperature (18 – 25°C) before use.
8. Use general good laboratory practices when handling this reagent.

**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.

**EVIDENCE OF DETERIORATION**

Any change in the physical appearance of this PC7-labeled reagent (clear, slightly pink to redish liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

**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.

**PRECAUTIONS**

Due to the tandem structure of the fluorochrome, PC7 also emits light at 575 nm. This secondary emission peak varies from lot-to-lot of PC7. Therefore, for multi-color analysis, the compensation matrix should be carefully checked when changing the lot of a PC7-conjugate.

**SELECTED RESEARCH REFERENCES**

1. Mehta, K., Shahid, U., Malavasi, F., "Human CD38, a cell-surface protein with multiple functions", 1996, FASEB J., 10, 1408-1417.

2. Malavasi, F., Funaro, Roggero, Horenstein, A., Calosso, L., Mehta, K., "Human CD38: a glycoprotein in search of a function", 1994, Immunol. Today, 15, 95-97.
3. Ramaschi, G., Torti, M., Festetics, E.T., Sinigaglia, F., Malavasi, F., Balduini, C., "Expression of cyclic ADP-Ribose-synthetizing CD38 molecule on human platelet membrane", 1996, Blood, 87, 2308-2313.
4. Zocchi, E., Franco, L., Guida, L., Benatti, U., Bargellesi, A., Malavasi, F., Lee, H.C., DeFlora, A., "A single protein immunologically identified as CD38 display NAD+ Glycohydrolase, ADP-Ribosyl Cyclase and cyclic ADP-Ribose Hydrolase activities at the outer surface erythrocytes", 1993, Biochem. Biophys. Res. Com., 196, 1459-1465.
5. Boumsell, L., "T-cell antigens: section report", 1995, Leucocyte Typing V, White Cell Differentiation Antigens, Schlossman, S.F., et al., Eds., Oxford Univ. Press, 241-279

**PRODUCT AVAILABILITY**

IOTest CD38-PC7 Conjugated Antibody  
PN A54189 – 0.5 mL Liquid – 10 µL/test\*.

PE is licensed under patent 4,520,110

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(\*) : 10 µL is the quantity of product sufficient to stain 5 x 10<sup>5</sup> cells in a standard immunofluorescence assay

