

### Analyte Specific Reagent.

Analytical and performance characteristics are not established.

#### SPECIFICITY

The CD38 antigen is a 45 kDa single-chain 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 T16 monoclonal antibody was assigned to the CD38 cluster of differentiation at the 3rd International Workshop on Human Leukocyte Differentiation Antigens in Oxford, UK, in 1986 (5).

#### REAGENT

IOTest CD38-PE Conjugated Antibody  
PN IM1832U – 2 mL Liquid – 20 µL/test\*

<b>Clone</b>	T16
<b>Hybridoma</b>	SP2/0 x Balb/c
<b>Immunogen</b>	PHA-activated PBL
<b>Ig. Chain</b>	IgG1
<b>Species</b>	Mouse
<b>Source</b>	Ascites fluid
<b>Purification</b>	Protein A affinity chromatography
<b>Conjugation</b>	PE (Phycoerythrin)
<b>Molar Ratio</b>	PE / Ig: 0.5 – 1.5
<b>Fluorescence</b>	Excites at 486 – 580 nm Emits at 568 – 590 nm

#### REAGENT CONTENTS

This reagent is provided in phosphate-buffered saline (PBS: 0.008 M sodium phosphate, 0.15 M sodium chloride, pH 7.2), with 0.1% sodium azide (NaN<sub>3</sub>) as preservative, and 2 mg/mL bovine serum albumin (BSA).

#### STATEMENTS OF WARNING

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 reagent beyond the expiration date on the vial label.
5. Minimize exposure of reagent to light during storage or incubation.
6. Avoid microbial contamination of reagent or erroneous results may occur.
7. Use Good Laboratory Practices when handling this reagent.

#### STORAGE CONDITIONS AND STABILITY

This reagent is stable to the expiration date printed on the vial label when stored at 2 – 8°C in the dark. Do not freeze.

#### REAGENT PREPARATION

No preparation is necessary. This reagent is used directly from the vial. Bring reagent to 18 – 25°C prior to use.

#### 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, 3, 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, 6, 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<sup>+</sup> Glycohydrolase, ADP<sup>+</sup> Ribosyl Cyclase and cyclic ADP-Ribose Hydrolase activities at the outer surface erythrocytes", 1993, Biochem. Biophys. Res. Com., 3, 196, 1459-1465.
5. Ling, N.R., MacLennan, I.C.M., Mason, D.Y., "B-cell and plasma cell antigens: new and previously defined clusters", 1987, Leucocyte Typing III, White Cell Differentiation Antigens, McMichael A.J., et al., Eds., Oxford University Press, 302-335.

#### TRADEMARKS AND PATENTS

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\* 20 µL is the quantity of product sufficient to stain 5 x 10<sup>5</sup> cells in a standard immunofluorescence assay