

## 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-APC-Alexa Fluor 700  
Conjugated Antibody  
PN B23489 - 0.5 mL - Liquid

<b>Clone</b>	LS198-4-3
<b>Isotype</b>	IgG1, Mouse
<b>Immunogen</b>	Human T cell line HUT 78
<b>Hybridoma</b>	SP2/0 x balb/c
<b>Source</b>	Ascites fluid or supernatant of in vitro cultured hybridoma cells.
<b>Purification</b>	Affinity chromatography
<b>Conjugation</b>	Allophycocyanin-Alexa Fluor 700 (APC-Alexa Fluor 700)
<b>Molar Ratio</b>	APC-Alexa Fluor 700 / Ig : 0.5 - 1.5
<b>Fluorescence</b>	Excites at 633/638 nm Emits at 720 nm

### REAGENT CONTENTS

This antibody is provided in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL bovine serum albumin. Concentration: See lot specific Certificate of Analysis at [www.beckmancoulter.com](http://www.beckmancoulter.com).

### 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 considered potentially infectious and disposed of with proper precautions.
3. Never pipet with 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.
7. Use good laboratory practices when handling this reagent.
8. Any change in the physical appearance of the reagents may indicate deterioration and the reagent should not be used.

### STORAGE AND HANDLING CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. 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, APC-Alexa Fluor 700 also emits light at 660 nm. This secondary emission peak varies from lot-to-lot of APC-Alexa Fluor 700. Therefore, for multi-color analysis, the compensation matrix should be carefully checked when changing the lot of a APC-Alexa Fluor 700-conjugate.

Weak non-specific binding on a lymphocyte subpopulation may occur on some donors with APC-Alexa Fluor 700 conjugates.

### 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.

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### MANUFACTURED BY :

IMMUNOTECH SAS  
a Beckman Coulter Company  
130, avenue de Lattre de Tassigny  
B.P. 177 - 13276 Marseille Cedex 9  
France

For additional information, or if damaged product is received, call Beckman Coulter Customer Service at 800-526-7694 (USA or Canada) or contact your local Beckman Coulter Representative.

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