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Product datasheet for AM39017PU-N

CD38 Mouse Monoclonal Antibody [Clone ID: T16]

Product data:

Product Type:	Primary Antibodies
Clone Name:	T16
Applications:	FC, IF, IHC
Recommended Dilution:	Anti-CD38 (clone T16) can be applied in**Flow Cytometry** for analysis of blood and bone marrow samples and in Immunohistochemistry using cytospots or frozen tissue sections. **Flow Cytometry:** please see "***Protocols***" below. Labelled reagent is effectively formulated for direct immunofluorescent staining.
Reactivity:	Human
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Specificity:	Clone T16 produces mouse IgG1 immunoglobulins reactive with a 45 kD antigen on lymphocytes [3]. CD38, clone T16, is widely used in flow cytometry to study T cell activation, B cell differentiation and in monitoring immunodeficiency diseases. CD38 is also reactive with multiple myelomas, most cases of ALL (both T and B lineage) and some cases of AML. In immunohistochemistry CD38, clone T16, reacts strongly with plasma cells and cortical thymocytes, less strongly with germinal center B cells. In clinical research CD38 is mainly used for leukemia and lymphoma typing and detection of plasma cells [4].
Formulation:	0.01 M sodium phosphate, 0.15 M NaCl, pH 7.3, 0.2% BSA, 0.09% sodium azide State: Aff - Purified State: Liquid purified Ig fraction Label: ***Cat. No. Label EX-max (nm) / EM-max (nm):*** AM39017AC-N APC 595, 633, 635, 647 / 660 AM39017RP-N PE 488, 532 / 578 AM39017PC5-N 488, 532 / 695 AM39017PU-N Pure . /
Concentration:	lot specific
Purification:	Affinity chromatography
Conjugation:	Unconjugated

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Storage: Store the antibody undiluted at 2-8°C.
Fluorochrome labelled product is photosensitive and should be protected from light.

Stability: Shelf life: one year from despatch.

Gene Name: CD38 molecule

Database Link: Entrez Gene 952 Human
P28907

Background: CD38 is present in low density on human B cells and pre-B cells, subsets of CD4 and CD8 T cells, NK cells and monocytes. CD38 is also found in high density on Ig secreting plasma cells, germinal center B cells, mitogen-activated T cells, and several B and T cells.
CD38 is a type II membrane glycoprotein, with the transmembrane sequence near the N-terminus.
Antibodies to human CD38 have a wide range of biological effects, incuding the induction of B and T cell proliferation, protection of B cells from apoptosis, inhibition of B lymphopoiesis and enhancement of macrophage APC function [2].

Synonyms: cADPr hydrolase 1, T10

Note: 1. Conjugates with brighter fluorochromes, like PE and APC, will have a greater separation than those with dyes like FITC. When populations overlap, the percentage of positive cells using a selected marker can be affected by the choice of fluorescent label.
2. Use of monoclonal antibodies in patient treatment can interfere with antigen target recognition by this reagent. This should be taken into account when samples are analyzed from patients treated in this fashion.
3. Reagent data performance is based on EDTA-treated blood. Reagent performance can be affected by the use of other anticoagulants.

Protocol: Flow cytometry method for use with labelled (FITC, R-PE, APC, PerCP or PerCP-Cy5.5) monoclonal antibodies
1. Add 100 µl of EDTA-treated blood (i.e. approx. 10e6 leukocytes) to a 5 ml reagent tube. The content of one tube is sufficient to perform one test.
2. Add to each tube 10 µl of labelled monoclonal antibody. (Appropriate mouse Ig isotype control samples should always be included in any labelling study).
Vortex the tube to ensure thorough mixing of antibody and cells.
3. Incubate the tube for 15 minutes at room temperature in the dark.
4. Add 100 µl of a lyse reagent.
5. Incubate for 10 minutes at room temperature in the dark.
6. Add 2 ml of demineralized water and incubate for 10 minutes in the dark.
7. Centrifuge the labeled cell suspension for 2 minutes at 1000 x g.
8. Remove the supernatant and resuspend the cells in 200 µl of PBS.
9. Analyze by flow cytometry within four hours (alternatively, the cells may be fixed by 0.05% of formaline in buffered saline for analysis the next day. Some antigens are readily destroyed upon fixation and this should be taken into account when using this alternative).

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Flow cytometry method for use with dual and triple combinations

1. Add 100 µl of EDTA-treated blood (i.e. approx. 10e6 leukocytes) to a 5 ml reagent tube. The content of one tube is sufficient to perform one test.
For combinations with anti-kappa and/or anti-lambda Ig see**Application note** below.
2. Add to each tube 20 µl of labelled monoclonal antibody combination.
(Appropriate mouse Ig isotype control samples should always be included in any labelling study).
3. Vortex the tube to ensure thorough mixing of antibody and cells.
4. Incubate the tube for 15 minutes at room temperature in the dark.
5. Add 100 µl of a lyse reagent and mix immediately.
6. Incubate for 10 minutes at room temperature in the dark.
7. Add 2 ml of demineralized water and incubate for 10 minutes in the dark.
8. Centrifuge the labelled cell suspension for 2 minutes at 1000 x g.
9. Remove the supernatant and resuspend the cells in 200 µl of PBS.
10. Analyze by flow cytometry within four hours (alternatively, the cells may be fixed by 0.05% of formaline in buffered saline for analysis the next day. Some antigens are readily destroyed upon fixation and this should be taken into account when using this alternative).

Application note for anti-kappa and/or anti-lambda Ig combinations

Add 2 ml of PBS containing 0.001% (v/v) Heparin (prewarmed to 37°C) to the cell suspension
Vortex, centrifuge (2 min at 300x g) and discard the supernatant.
Repeat this step twice.
Resuspend the pelleted blood cells in 100 µl PBS, pH 7.2, containing 0.001% (v/v) Heparin.

Flow cytometry method for use with purified monoclonal antibodies

1. Add 100 µl of EDTA-treated blood (i.e. approx. 10e6 leukocytes) to a 5 ml reagent tube. The content of one tube is sufficient to perform one test.
2. Add to each tube 10 µl of purified monoclonal antibody. (Appropriate mouse Ig isotype control samples should always be included in any labelling study).
Vortex the tube to ensure thorough mixing of antibody and cells.
3. Incubate the tube for 15 minutes at room temperature in the dark.
4. Wash the labelled cells by adding 2 ml of PBS containing 0.001% (v/v) Heparin, vortexing and centrifuging (2 min 1000 x g) and discard the supernatant.
5. Add 50 µl of appropriate dilution of F(ab)2 Rabbit Anti Mouse IgG fluorescent conjugate (e.g.FITC or R-PE) in PBS containing 0.001% (v/v) Heparin to the tube. It is recommended that the tube is protected from light.
6. Mix by vortexing and incubate for 15 minutes at room temperature in the dark.
7. Add 100 µl of a lyse reagent and mix immediately.
8. Incubate for 10 minutes at room temperature in the dark.
9. Add 2 ml of demineralized water and incubate for 10 minutes in the dark.
10. Centrifuge the labelled cell suspension for 2 minutes at 1000 x g.
11. Remove the supernatant and resuspend the cells in 200 µl of PBS.
12. Analyze by flow cytometry within four hours (alternatively, the cells may be fixed by 0.05% of formaline in buffered saline for analysis the next day. Some antigens are readily destroyed upon fixation and this should be taken into account when using this alternative).

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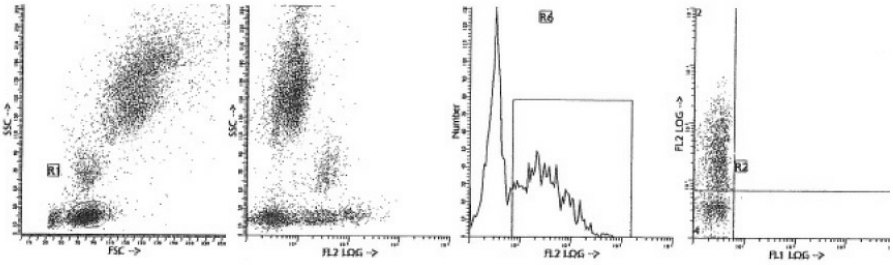
Protein Families: Cancer stem cells, Druggable Genome, ES Cell Differentiation/IPS, Induced pluripotent stem cells, Transmembrane

Protein Pathways: Calcium signaling pathway, Hematopoietic cell lineage, Metabolic pathways, Nicotinate and nicotinamide metabolism

Product images:



Representative Data Anti-CD38, clone T16, was analyzed by flow cytometry using a blood sample from a healthy donor. The cytogram shows direct staining with 10 µl anti-CD38 R-PE per 100 µl whole blood.

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