PRODUCT INFORMATION SHEET

Monoclonal antibodies detecting human antigens

CD16 FITC **CD56** R-PE RUO REF IQP-221FR 50 tests

RUO ***For Research Use Only***

Description

CD16 is a low-affinity receptor for aggregated IgG (FcgRIII). The transmembrane form of CD16 is expressed on approximately 15% of peripheral blood lymphocytes and is present on virtually all resting NK cells. It is also found on macrophages and mast cells. It binds IgG complexed to antigens and mediates phagocytosis and antibody-dependent cellular cytotoxicity. On NK cells it mediates signal transduction while the GPI-linked form on neutrophils binds to ligands but is unable to induce any signal or functional effect.

CD56 is applied for the detection of NK cells in immune monitoring. NK cells form a distinct subpopulation of lymphocytes, which are capable of performing their cytotoxic activity without MHC restriction. Target cells may include virally infected cells or transformed cells and CD56 appears to be involved in the cytotoxic activity of NK cells.

CD16

Clone B-E16

Isotype Murine IgG2a

Specificity Clone B-E16 produces mouse IgG2a immunoglobulins specific for a 50-70 kD antigen which is associated with the IgG FceRI on NK cells, neutrophils, granulocytes and monocytes.

CD56

Clone MOC-1

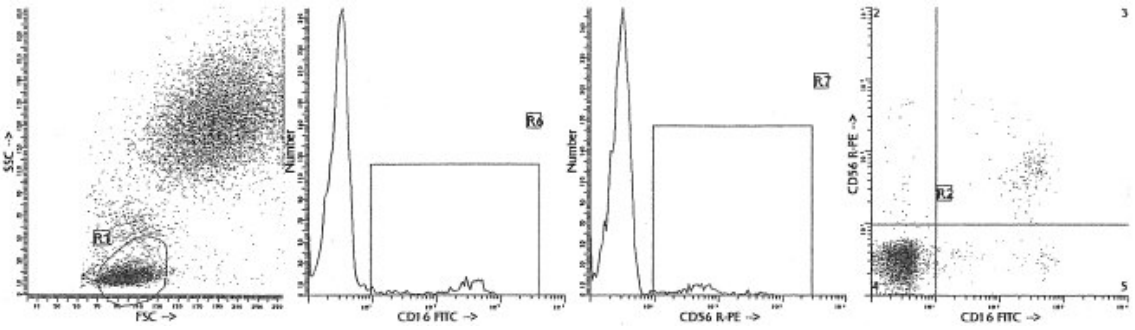
Isotype Murine IgG1

Specificity Certain subtypes of T cell lymphomas may express the CD56 antigen. These include peripheral T cell lymphoma (NK cell lymphoma: CD56+, EBV+) and T lymphocytic lymphoma (CD56+/-). In addition, the neoplastic counterpart of the NK cell can be characterized as T gamma lymphocytosis, showing expression of a number of antigens, e.g. CD56+, CD7+, CD16+, CD2+/- and CD8+/-. Co-expression of CD56 and CD138 (monoclonal antibody B-A38) is an indication of plasma cell malignancy in multiple myeloma, although it does not occur in all samples.

Usage All these reagents are effectively formulated for direct immunofluorescent staining of human tissue for flow cytometric analysis using 10 µl/10^6 leukocytes for singles and 20 µl/10^6 leukocytes in case of dual and triple combinations. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

Representative Data

IQP-221FR (CD16/CD56) was analyzed by flow cytometry using a blood sample from a healthy volunteer. Direct staining was performed by adding 20 µl of this dual to 100 µl blood sample.



Immunofluorescence staining and lysing protocol

Flow cytometry method for use with dual and triple combinations

1. Add 100 µl of EDTA-treated blood (i.e. approx. 10^6 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 labeled monoclonal antibody combination*.
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 IQ Lyse (IQP-199 ready-to-use) 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 labeled 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).

** Appropriate mouse Ig isotype control samples can be included in any labeling study*
*** PBS: Phosphate Buffered Saline, pH 7.2*

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 containing 0.001% (v/v) Heparin

Handling and Storage

Antibodies are supplied either as 100 tests per vial (1 ml) for singles or 50 tests per vial (1 ml) for dual and triple combinations. They are supplied in 0.01 M sodium phosphate, 0.15 M NaCl; pH 7.3, 0.2% BSA, 0.09% sodiumazide (NaN_3). Store the vials at 2-8 °C. Monoclonal antibodies should be protected from prolonged exposure to light. Reagents are stable for the period shown on the vial label when stored properly.

Warranty Products sold hereunder are warranted only to conform to the quantity and contents stated on the label at the time of delivery to the customer. There are no warranties, expressed or implied, which extend beyond the description on the label of the product. IQ Products is not liable for property damage, personal injury, or economic loss caused by the product.

Characterization

To ensure consistently high-quality reagents, each batch of monoclonal antibody is tested for conformance with characteristics of a standard reagent. Representative flow cytometric data is included in this data sheet.

Warning All products contain sodiumazide. This chemical is poisonous and hazardous. Handling should be done by trained staff only.

Explanation of used symbols

	Consult instructions for use
REF	Catalogue number
	Sufficient for
IVD	In Vitro Diagnostic medical device
	Caution, consult accompanying document
	Keep away from (sun)light
	Biological risks
	Temperature limitation (°C)
RUO	For Research Use Only
LOT	Batch code
	Use by yyyy-mm-dd
	Manufacturer
EC REP	Authorized Representative in the European Community
CE	Conformité Européenne (European Conformity)

		Label - tandem	**Ex -max (nm)**	**Em -max (nm)**
P	PURE	purified material	-	-
F	FITC	FITC	488	519
R	R-PE	PE	488, 532	578
C	CyQ	PE-Cy5.18	488, 532	667
A	APC		595, 633, 635, 647	660
PC	PerCP		488, 532	678
PCC	PerCP-Cy5.5		488, 532	695

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