

PRODUCT INFORMATION SHEET

Monoclonal antibodies detecting human antigens

anti-Kappa FITC **Anti-Lambda** R-PE RUO REF IQP-248FR 50 tests

RUO *For Research Use Only*



Description

anti-Kappa Clone **NaM76-5F3** Isotype **murine IgG1**

For detailed description of this particular single reagent, please refer to IQP-517, anti-kappa (NaM76-5F3)

anti-Lambda Clone **NaM79-8E6** Isotype **murine IgG1**

For detailed description of this particular single reagent, please refer to IQP-518, anti-lambda (NaM79-8E6)

Intended use The combination of anti-kappa and anti-lambda is used for the detection of light chains of surface immunoglobulin on normal and neoplastic B cells. They are valuable to study the monoclonal nature (light chain restriction) of lymphoid neoplasms.

Summary Kappa light chains of human immunoglobulins occur in 50-70% of normal human B lymphocytes while lambda light chains are expressed in 30-50% of these cells. Abnormal expression of kappa and lambda light chains occur in leukemia.

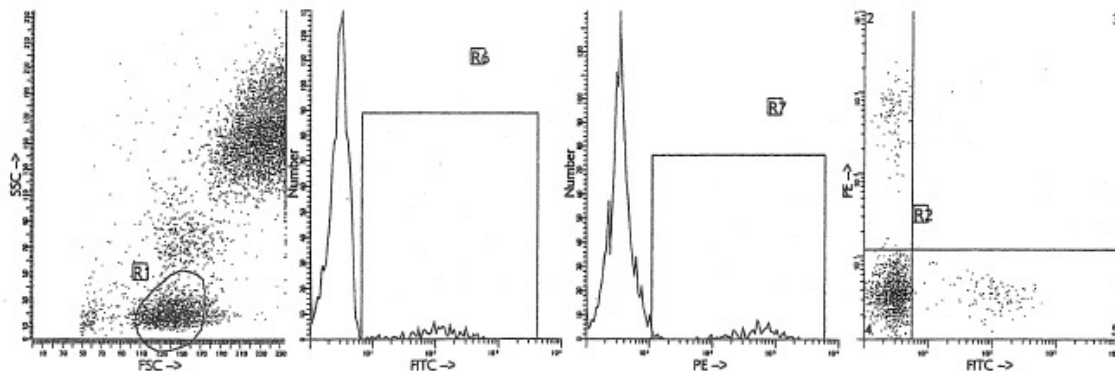
Anti-human lambda light chain reacts with free light chains as well as intact immunoglobulin molecules. The monoclonal antibodies anti-kappa and anti-lambda are available as single reagents or in combinations.

Applications Monoclonal anti-kappa and anti-lambda antibodies can be applied in flow cytometry for analysis of blood samples. Anti-human kappa light chain is intended for use in flow cytometry and has been selected for use in combination with anti-human lambda, with anti-CD19 or as a triple reagent i.e. anti-kappa plus anti-lambda plus anti-CD19. Anti-kappa and anti-lambda antibodies are frequently used in combination with anti-CD19 for the detection of light chains of surface immunoglobulin on normal and neoplastic B cells. These reagents are especially valuable in the study of the monoclonal nature (light chain restriction) of lymphoid neoplasms.

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

Representative Data

Staining with the dual anti-kappa FITC and anti-lambda R-PE was performed using 20 μl of the conjugated monoclonal antibody and 100 μl of a washed blood sample.



Limitations

1. Conjugates with brighter fluorochromes, like PE and APC, will have a greater separation than those with dyes like FITC and CyQ. 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. IQ Products has not characterized the effect of the presence of therapeutic antibodies on the performance of this reagent.
3. Reagents can be used in different combinations, therefore laboratories need to become familiar performance characteristics of each antibody in relation with the combined markers in normal and abnormal samples.
4. Reagent data performance is based on EDTA-treated blood. Reagent performance can be affected by the use of other anticoagulants.

Reagents and materials required but not supplied

1. Flow cytometer
2. Flow cytometry disposable 12 x 75-mm capped polystyrene test tubes
3. Micropipette with disposable tips
4. Vortex mixer
5. Centrifuge
6. IQ Lyse - erythrocyte lysing solution (IQP-199)
7. IQ Starfiqs - fixation and permeabilization solution (IQP-200)
8. PBS (phosphate-buffered saline)
9. 1% Heparin
10. 1% paraformaldehyde solution in PBS (store at 2-8 °C in amber glass for up to 1 week)

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 should always 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 (NaN₃). 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 |
| | Catalogue number |
| | Sufficient for |
| | In Vitro Diagnostic medical device |
| | Caution, consult accompanying document |
| | Keep away from (sun)light |
| | Biological risks |
| | Temperature limitation (°C) |
| | For Research Use Only |
| | Batch code |
| | Use by yyyy-mm-dd |
| | Manufacturer |
| | Authorized Representative in the European Community |
| | 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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