

PN IM1874

100 tests

20 µL / test

**Myeloperoxidase-FITC
(CLB-MPO-1)**



IOTest[®]
Conjugated Antibodies

For Research Use Only. Not For Use In Diagnostic Procedures.

SPECIFICITY

Myeloperoxidase (MPO) is an heterodimeric glycoprotein of 150 kDa with an $\alpha 2/\beta 2$ structure. The two subunits (α and β) have a molecular weight of 55 and 15 kDa, respectively (1, 2)

MPO synthesis occurs in bone marrow at an early stage of myeloid lineage differentiation. MPO is specifically expressed during promyelocytic formation, the stage at which azurophilic granules (or primary granules) are formed (1, 3, 4). MPO is still found in mature myeloid cells, becoming the major constituent of azurophilic granules of neutrophils (2, 4, 5). MPO is stored in polymorphonuclear neutrophilic granules and in macrophages, but it is not expressed in lymphocytes, platelets and erythrocytes (2).

MPO acts as a potent microbicidal agent, it catalyzes the formation of hypochlorous acid (HOCl) in the presence of active oxygen (H_2O_2) (1, 4). Intranuclear MPO may also help to protect DNA against damage resulting from oxygen radicals produced during cell maturation and function (6).

CLB-MPO-1 monoclonal antibody recognizes the human intracellular myeloperoxidase and the precursor of MPO (proMPO) which is enzymatically inactive.

REAGENT

Clone	CLB-MPO-1
Isotype	IgG1 mouse
Immunogen	Purified myeloperoxidase
Hybridoma	SP2/0 x KAF mouse spleen cells
Source	Ascites fluid
Purification	Ion exchange or affinity chromatography
Conjugation	Fluorescein isothiocyanate (FITC) is conjugated at 3 – 5 moles of FITC per mole of Ig Excitation wavelength: 488 nm Maximum emission wavelength: 525 nm Main emission color: Green
Buffer	2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide

APPLICATION

Studies of intracellular staining of human myeloperoxidase in blood and bone marrow cells by flow cytometry.

Flow cytometry analysis of intracellular expression of MPO in hematopoietic neoplasia.

Identification and characterization of myelogenous lineage differentiation (i.e. cMPO⁺) on hematopoietic acute malignancies (7 – 10).

STATEMENT OF WARNINGS

- 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 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.

STORAGE CONDITIONS AND STABILITY

Each reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

REAGENT PREPARATION

No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 20 – 25°C prior to use.

PROCEDURE

This reagent is designed for flow cytometry.

Assay volume: 20 µL per 5×10^5 cells in one test, or per 100 µL whole blood or bone marrow.

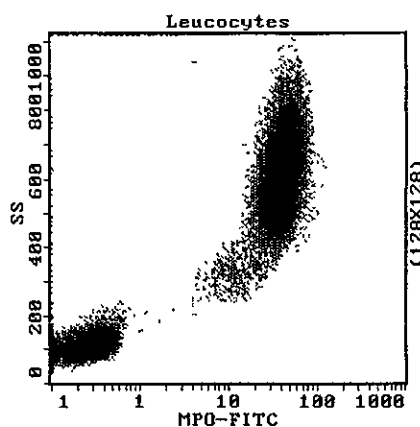
A permeabilization is required to give antibodies full access to intracellular epitopes.

Refer to the instruction included in the IntraPrep™ Permeabilization Reagent package insert (PN IM2388, IM2389) to yield optimal results.

EXAMPLE DATA

The diagrams below are biparametric representations (Side Scatter versus Fluorescence Intensity) of permeabilized normal whole blood sample. Staining is with Myeloperoxidase-FITC monoclonal antibody (PN IM1874). Gate is on leucocytes permeabilized with IntraPrep Permeabilizing Reagent (PN IM2388, PN IM2389). The isotypic control labeling is not shown.

Acquisition is with a COULTER® EPICS® XL™M flow cytometer. Analysis is with the XL System II™ Software.



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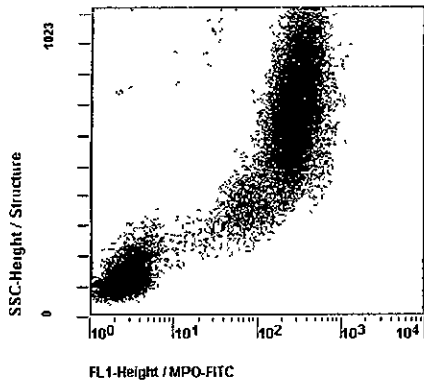
100 tests

20 µL / test

**Myeloperoxidase-FITC
(CLB-MPO-1)**

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Acquisition is with a BD Biosciences FACScan™ flow cytometer equipped with LYSIS II™ Software. Analysis is with EXPO™ v 2 Cytometer software (COULTER PN 6605434)



SELECTED RESEARCH REFERENCES

- [3587] Nauseef, W M , Olsson, I , Arnljots, K , "Biosynthesis and processing of myeloperoxidase a marker for myeloid cell differentiation", 1988, Eur. J Haematol , 40, 97-110
- [368] Koeffler, H P., Ranyard, J , Pertcheck, M , "Myeloperoxidase. its structure and expression during myeloid differentiation", 1985, Blood, 2, 65, 484-491
- [2745] Cramer, E , Pryzwansky, K.B , Villeval, J L , Testa, U , Breton-Gorius, J , "Ultrastructural localization of lactoferrin and myeloperoxidase in human neutrophils by immunogold", 1985, Blood, 2, 65, 423-432
- [3191] Borregaard, N , Cowland, J B., "Granules of the human neutrophilic polymorphonuclear leukocyte", 1997, Blood, 10, 89, 3503-3521.
- [3177] Strobl, H., Takimoto, M., Majdic, O., Fritsch, G , Scheinecker, C , Hocker, P., Knapp, W., "Myeloperoxidase expression in CD34+ normal human hematopoietic cells", 1993, Blood, 7, 82, 2069-2078
- [3174] Murao, S.I., Stevens, F J , Ito, A , Huberman, E , "Myeloperoxidase: a myeloid cell nuclear antigen with DNA-binding properties", 1988, Proc Natl Acad. Sci USA, 85, 1232-1236
- [3474] Rothe, G , Schmitz, G Adorf, D , Barlage, S , Gramatzki, M , Hanenberg, H., Hoffkes H G., Janossy, G , Knüchel, R , Ludwig, W D , Nebe, T , Nerl, C., Orfao, A , Serke, S., Sonnen, R , Tichelli, A., Wormann, B., "Consensus protocol for the flow cytometric immunophenotyping of hematopoietic malignancies", 1996, Leukemia, 10, 877-895.
- [3470] Stewart, C.C , Behm, F.G , Carey, J L , Cornbleet, J., Duque, R E., Hudnall, S.D., Hurtubise, P E , Loken, M , Tubbs, R R , Wormsley, S., "U S. Canadian consensus recommendations on the immunophenotypic analysis of hematologic neoplasia by flow cytometry selection of antibody combinations", 1997, Cytometry, 30, 231-235
- [3471] Borowitz, M J , Bray, R , Gascoyne, R , Melnick, S , Parker, J W , Picker, L , Stetler-Stevenson, M., "U S Canadian consensus recommendations on the immunophenotypic analysis of hematologic neoplasia by flow cytometry" data analysis and interpretation", 1997, Cytometry, 30, 236-244.
- [5136] Orfao, A , Ruiz-Arguelles, A , Lacombe, F , Ault, K , Basso, G., Danova, M , "Flow Cytometry its applications in hematology", 1995, Haematologica, 80, 69-81

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