Anti-MNDA (Myeloid Nuclear Differentiation Antigen) ASR

Clone	3C1
Species	Rat (anti-human)
Immunogen	Concentrated nuclear protein extract prepared from late stage human myeloid leukemia HL-60 cells
Source	Cell culture fluid
Specificity	The antibody reacts to the human myeloid nuclear differentiation antigen (MNDA). Cross reactivity to a similar protein in other species has not been extensively characterized. Most applications will require permeabilization or solubilization of cell membranes, as the primary cell localization of this protein is intranuclear [1]. MNDA has been characterized as a cofactor in regulation of cell cycle progression, cell differentiation and apoptosis [2-3]. The human myeloid nuclear differentiation antigen, MNDA, is expressed only in myelomonocytic and a subset of B lymphoid hematopoietic cells [5]. MNDA is uniformly distributed throughout the interphase cell nucleus and associates with chromatin, but does not bind specific DNA sequences. It is a member of the interferon-alpha inducible protein family and accordingly has been reported to be altered in a variety of inflammatory related disease states [4, 5]. Expression is altered in the marginal zone lymphoproliferative disorders subset of malignant lymphoma. Expression is reported to be decreased in myelodysplasia in myeloid precursors and mature forms.
Immunoglobulin Class	IgG_1 K
Availability	FITC conjugate – Cat. No. MNDA-3C1-F 50 µg/mL* - 50 µg in 1.0 mL of buffer containing ≤0.5% BSA and <0.1% NaN3 Purified – Cat. No. MNDA-3C1-U 100 µg/mL* - 100 µg in 1.0 mL of buffer containing ≤0.5% BSA and <0.1% NaN3 * *Optimal working dilution is best determined by user and is dependent upon intracellular staining procedure used.*
Characterization	This antibody has been found to be effective for direct immunofluorescence staining of human myeloid cells for flow cytometric analysis. Each investigator should titer the antibody in their specific application to determine the optimal per-test amount. The performance and specificity of this antibody have been tested using Trillium's in-house quality control methods. Manufacturing of the antibody preparation is done using GMP guidelines.

Analyte Specific Reagent ■ *Analytical and performance characteristics are not established.*

Characterization continued...

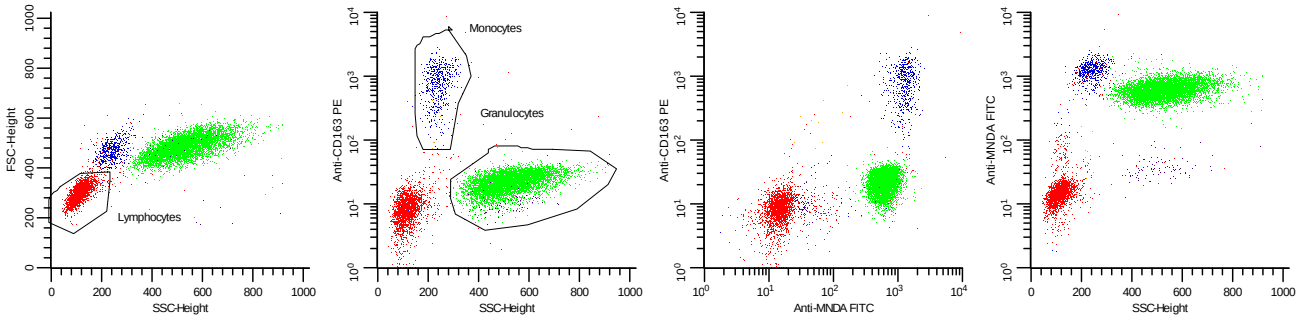

Figure 1. Staining of human blood with anti-MNDA (intracellular) and CD163 (surface monocyte specific antigen) with permeablization as described by Chow et al (1). Lymphocytes (red) are negative for all but a small subset of B cells with low MNDA expression, while monocytes (blue) and granulocytes (green) do express MNDA.

Handling & Storage: Store vials upright, tightly capped, at 2-8C when not in use. Unopened vials are stable until the expiration date indicated on each vial at a minimum. Avoid unnecessary cycles of warming and cooling. Protect product from temperatures above 30C and prolonged time at room temperature (18-26C). Conjugated antibodies should not be frozen and should be protected from light.

Warranty This product is warranted to conform to the labeled specifications. There are no warranties expressed or implied that extend beyond the labeled product description. Trillium Diagnostics will not be held liable for any damage to person or property, or any economic loss related to the use of this product. Trillium Diagnostics' sole liability is limited to replacement or refund of defective product.

Warning: Sodium azide (NaN_3) is a toxic and dangerous compound when combine with acid or metals when at concentrations higher than that bottled with this product. Solutions containing sodium azide should be disposed of properly and in accordance with local regulations.

References:

1. Chow, S., et al., *Whole blood fixation and permeabilization protocol with red blood cell lysis for flow cytometry of intracellular phosphorylated epitopes in leukocyte subpopulations.* Cytometry A, 2005. 67(1): p. 4-17.
2. Asefa, B., et al., *The interferon-inducible p200 family of proteins: a perspective on their roles in cell cycle regulation and differentiation.* Blood Cells Mol Dis, 2004. 32(1): p. 155-67.
3. Xie, J., J.A. Briggs, and R.C. Briggs, *Human hematopoietic cell specific nuclear protein MNDA interacts with the multifunctional transcription factor YY1 and stimulates YY1 DNA binding.* J Cell Biochem, 1998. 70(4): p. 489-506.
4. Johnstone, R.W., J.A. Kerry, and J.A. Trapani, *The human interferon-inducible protein, IFI 16, is a repressor of transcription.* J Biol Chem, 1998. 273(27): p. 17172-7.
5. Briggs, J.A., et al., *Cloning and expression of the human myeloid cell nuclear differentiation antigen: regulation by interferon alpha.* J Cell Biochem, 1992. 49(1): p. 82-92.

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