

Hematologies Update Vol. I

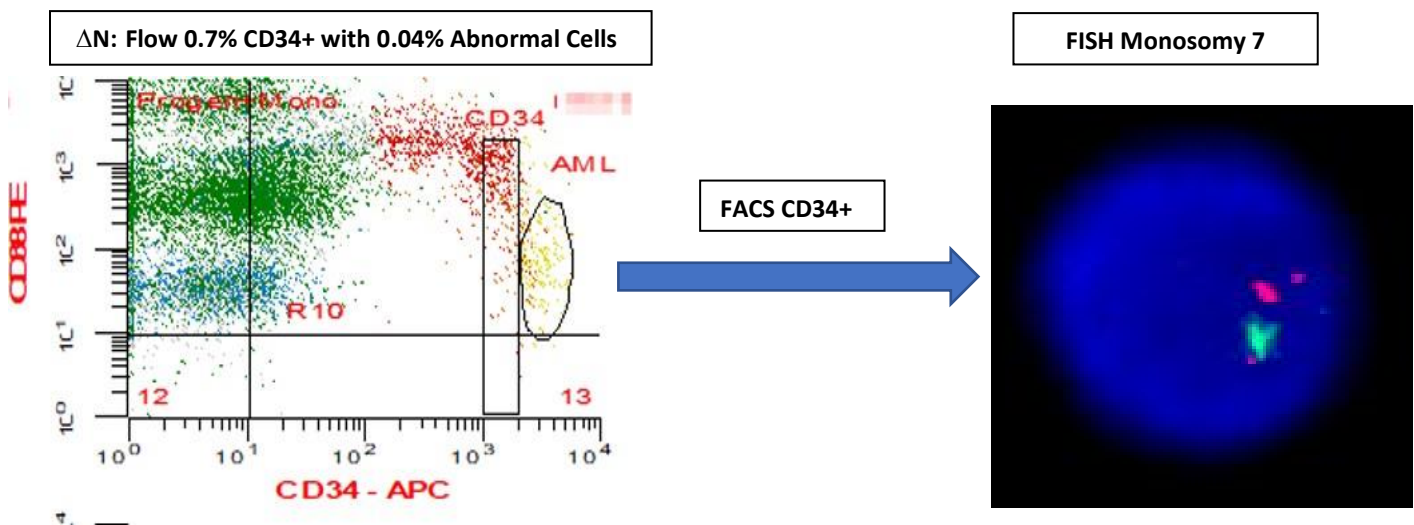
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Hematologies is a leader in the detection of Measurable Residual Disease (MRD). Our laboratory is at the forefront of MRD assessment by flow cytometry, molecular and FISH methods. We have over 20 years experience in using MRD to measure response to therapy. Furthermore, we have been the reference laboratory for Children's Oncology Group (COG) for pediatric AML since its formation in 2000. Our unique **Difference from Normal (ΔN :) Flow Cytometry** combined with our routine use of **Fluorescence Activated Cell Sorting (FACS)** and **Fluorescence in situ Hybridization (FISH)**, termed **FACS-FISH**, can identify and confirm MRD. This integration of techniques provides you with greater confidence in your treatment decisions.

Case Study – Suspected MRD without Diagnostic Sample

Clinical History/Indications: A patient with a clinical history of acute myeloid leukemia, without an available diagnostic phenotype, had a bone marrow aspirate submitted for Measurable Residual Disease (MRD) detection
Analysis/Conclusions: **Difference from Normal (ΔN :) flow cytometric findings** revealed a 0.7% CD34 population that included 0.04% abnormal myeloid progenitor cells (yellow) **consistent with residual AML**.

Cell enrichment, by **Fluorescent Activated Cell Sorting (FACS)**, of CD34 positive cells that included the abnormal 0.04% cell population was followed by **FISH**.



FACS-FISH Result: **Monosomy 7** is identified in the sorted CD34+ cell population.

Conclusion:

- AML MRD Identified by ΔN : Flow Cytometry at 0.04%.
- FACS-FISH confirms residual disease.
- ΔN : Flow Cytometry is based on antigen abnormalities and can detect MRD in this patient without a diagnostic sample.
- On the contrary, the commonly used Leukemia Associated Immunophenotype (LAIP) method for AML detection is based on antigen frequencies and requires diagnostic information.

Hematologies provides a unique approach to integrated testing in the areas of Flow Cytometry, Molecular Genetics, Cytogenetics, Deep Sequencing, FISH and Microarray. Please visit our website (www.hematologies.com) for more information or call us at (800) 860-0934.

Best for Your Patient-Best for You