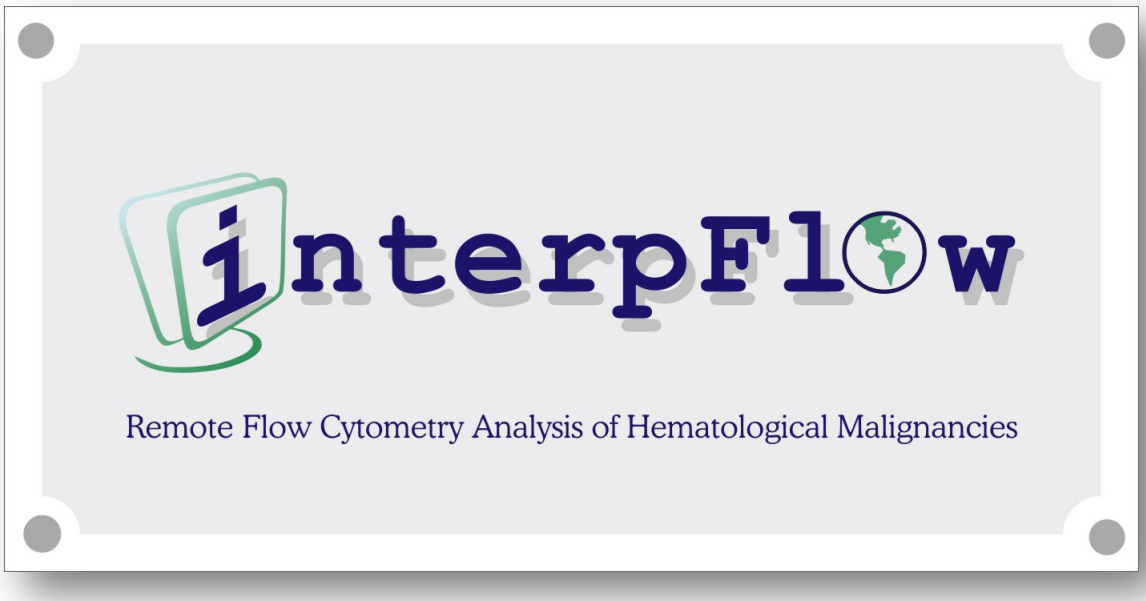

MINIMAL RESIDUAL DISEASE (MRD) IN ACUTE LEUKEMIA

Detection of MRD in AML

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Acute Leukemia. Key role of Flow Cytometry in the detection of Minimal Residual Disease

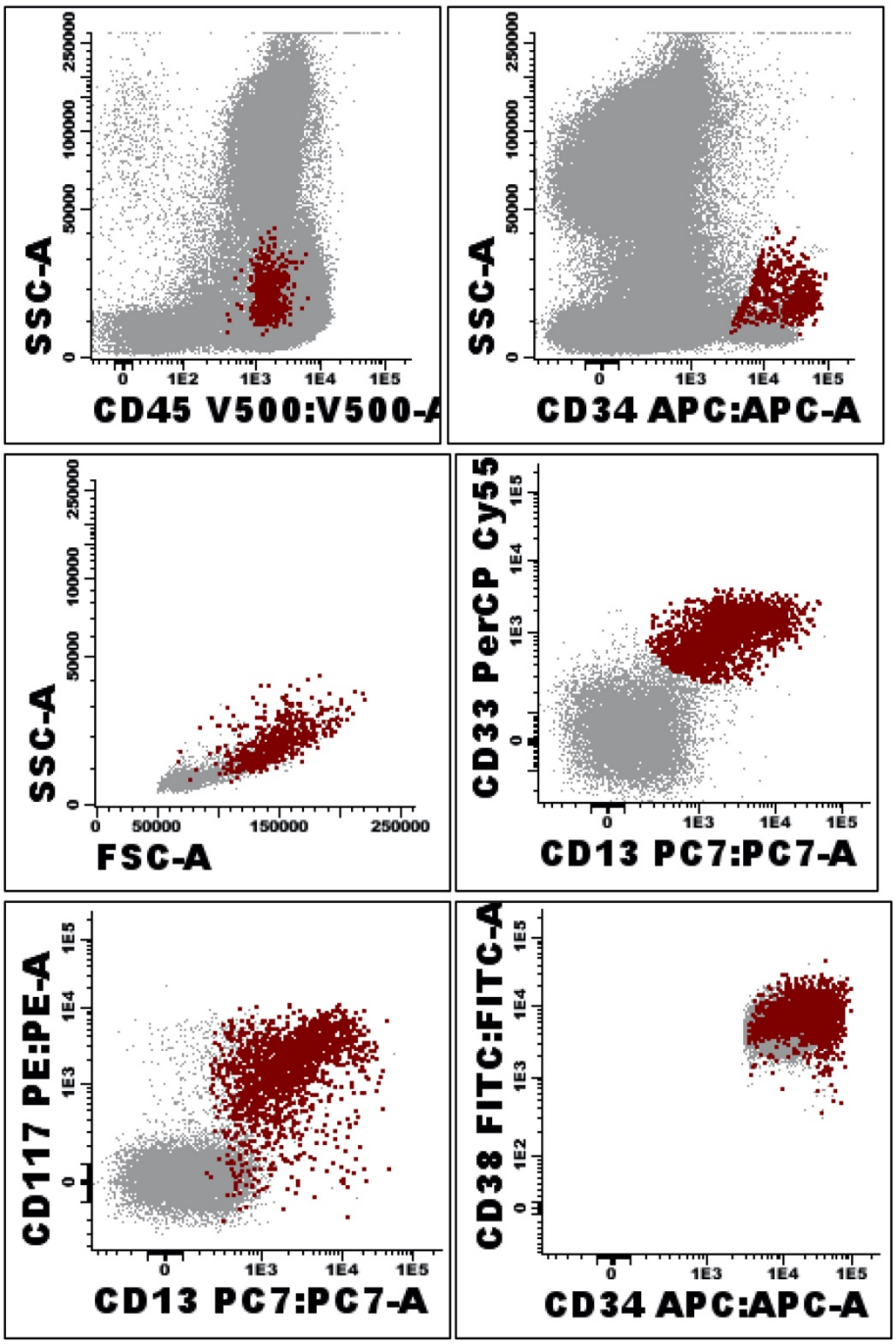
Flow cytometry plays an essential role in the diagnosis and classification of acute Leukemias (5,6,7). Together with cytomorphology and cytochemistry, immunophenotyping is crucial for the detection and lineage assignment of blast cells in suspected samples, including the definition of acute leukemias of ambiguous lineages (8,9,10). Multiparameter Flow Cytometry (MFC) has also proven to be of great utility for sensitive detection of low levels of residual blast cells and their distinction from normal regenerating immature cells in the bone marrow of acute leukemia patients during treatment (11).

AML – Example of EVALUATION OF MRD

NEGATIVE CASE

There is no phenotypic evidence of MRD in this specimen.

CD34+ represent now 1.6% of total cells, predominantly B cell committed precursors.



POSTIVE CASE (Same patient)

Phenotypically abnormal myeloblasts detected in previous specimen.

Blasts were CD34+ CD33+ but CD117neg and CD13neg, representing 0.2% of total cells. See abnormal blasts in red, as reference.

Normal myeloblasts present in the sample are shown in brown.