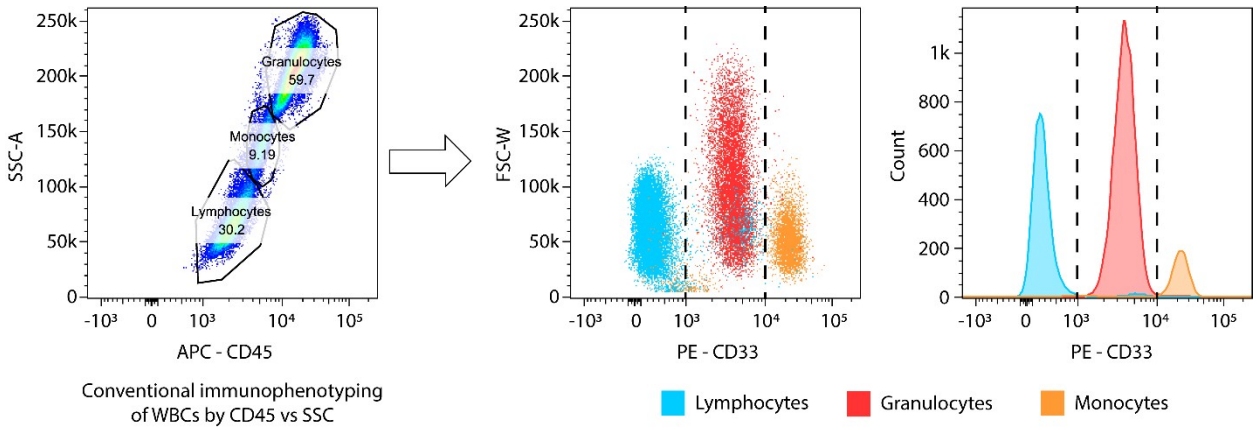
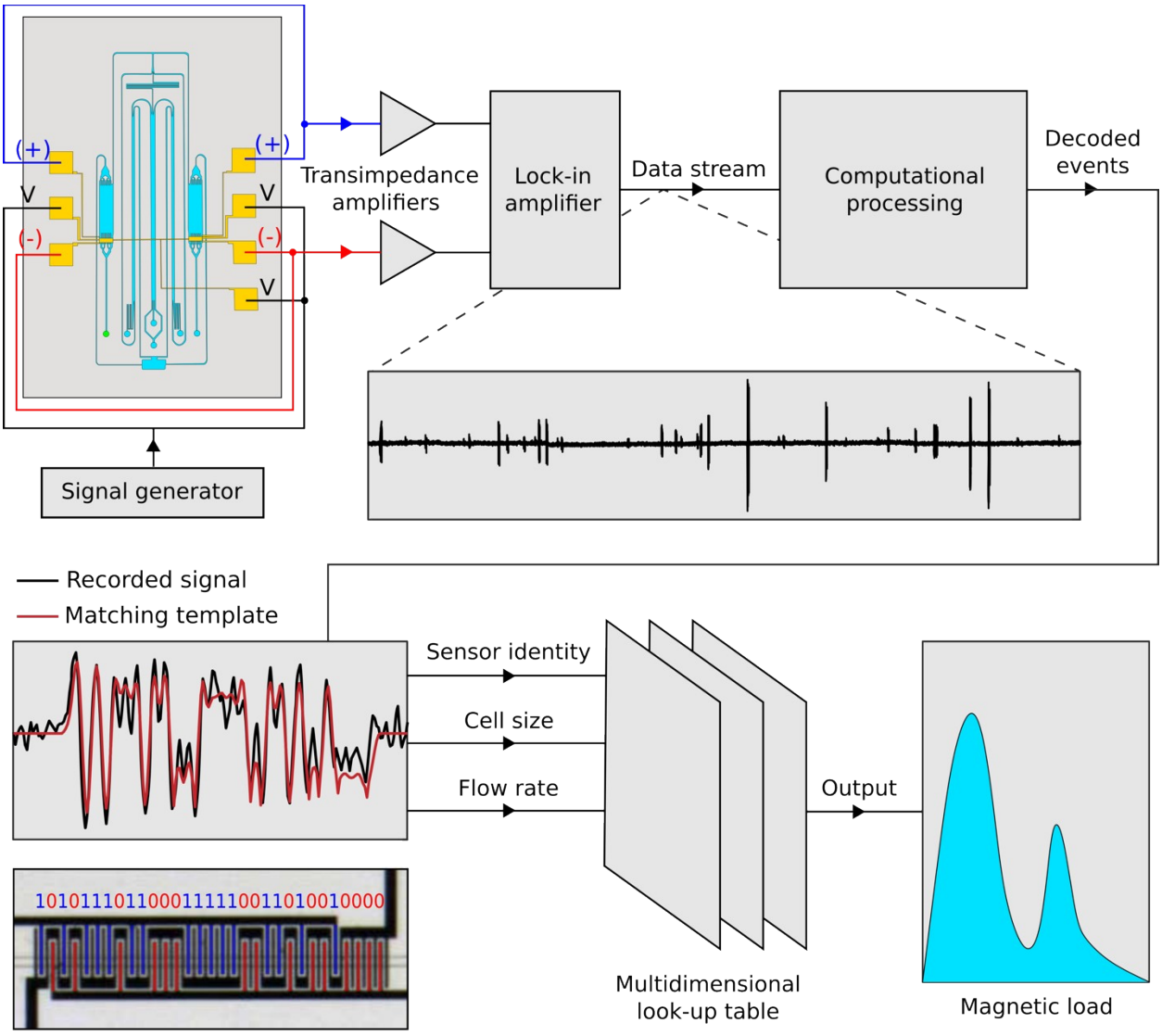
Electronic Supplementary Material (ESI) for Lab on a Chip.

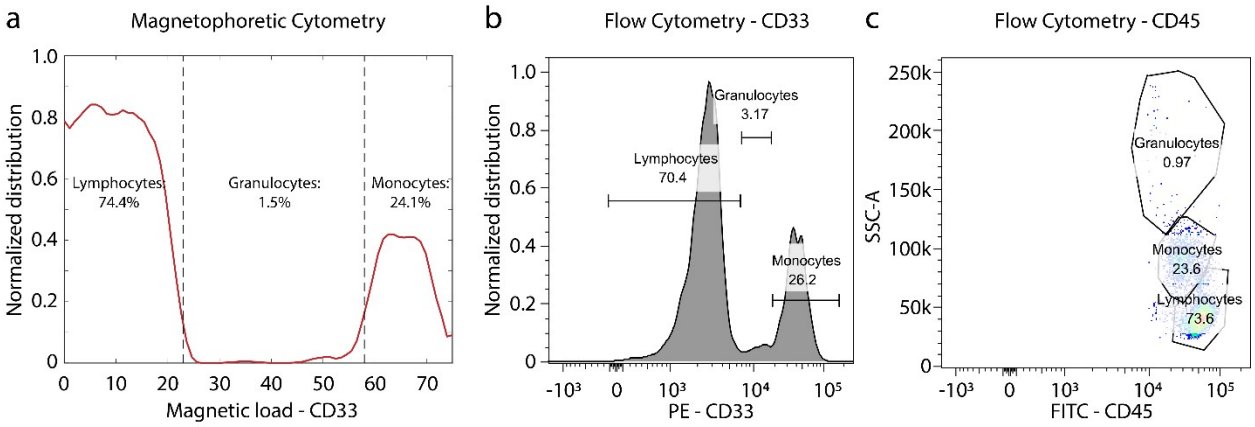
SUPPLEMENTARY INFORMATION



Supplementary Figure 1: Comparison of leukocyte differential measurements based on different parameters. Measured leukocyte differential based on conventional flow cytometry (CD45 expression and side scatter) matches with the leukocyte differential measured based on CD33 expression measured by flow cytometry.



Supplementary Figure 2: Schematic showing the electronic data analysis workflow. The workflow consists of the acquisition of electrical data from the microfluidic device, processing of the sensor data to identify sensor-specific codes, extracting cell size and magnetophoretic displacement, interpretation of results using look-up tables and the construction of the leukocyte immunomagnetic load data .



Supplementary Figure 3: Analysis of mononucleated cells (lymphocytes and monocytes) suspended in blood plasma. (a) Results obtained from MACY. (b) Results from flow cytometry analysis measuring CD33 antigen expression. (c) Results from conventional flow cytometry analysis targeting CD45 antigen and side scatter.