

Multi-Channel Cellytics for Rapid and Cost-Effective Monitoring of Leukocyte Activation

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Table S1. Comparative Processing Time Analysis: Multi-channel Cellytics versus Flow Cytometry.

Method	Sample preparation (min)	Data acquisition (min)	Analysis (min)	Total Time (min)
Flow cytometry	30–40	10–15	20–30	60–85
Multi-channel Cellytics	1–5	< 2	5–10	8–15

This table contains a comparative analysis of the processing time for leukocyte analysis using multi-channel Cellytics and conventional flow cytometry. Cellytics shows a significant reduction in overall processing time, primarily due to its label-free methodology and direct morphological analysis, which eliminates the need for antibody staining and extensive data processing. Overall analysis time is reduced by approximately 80–90% with Cellytics, highlighting the significant advantage of LSIT for rapid assessment of leukocyte activation.

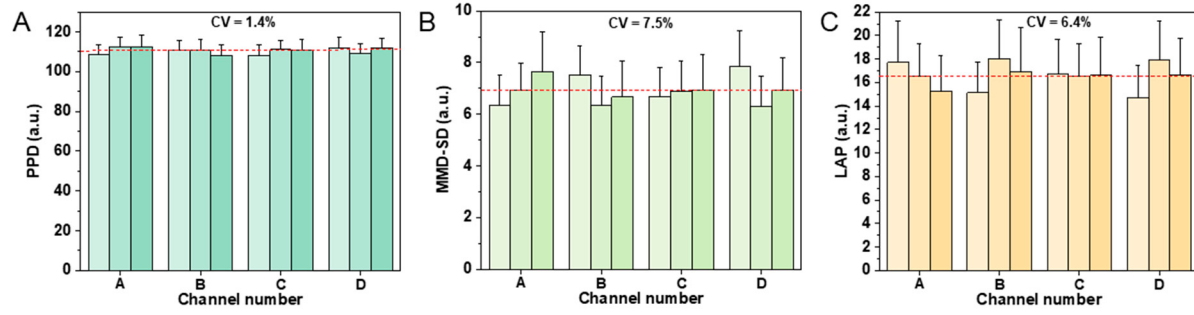


Figure S1. Inter-channel Reproducibility of Multi-channel Cellytics Measurements. (a) Peak-to-peak distance (PPD), (b) maxima-to-minima distance standard deviation (MMD-SD), and (c) leukocyte activation parameter (LAP) are plotted as a function of channel number ($n = 3$) to assess consistency between channels. The plots show minimal variation between channels for PPD, MMD-SD and LAP values with a coefficient of variation (CoV) consistently below 10%. This low CoV confirms the high reproducibility and consistency of the measurements across the four independent optical channels of the multi-channel Cellytics multichannel device.