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(54) Title: MODIFIED MICROFLUIDIC IMPEDANCE BASED LAB ON CHIP FOR INDIVIDUAL CELL COUNTING AND A PROCESS FOR FABRICATION THEREOF

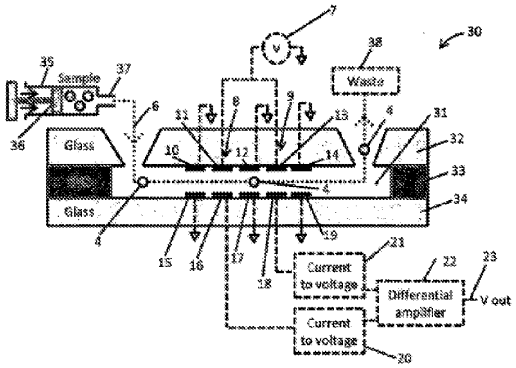

Figure: 1

(57) Abstract: Microfluidic impedance based lab on chip is a sensor module to measure the impedance of a single biological cell flowing in channel of micrometer size. In the present invention, the enhancement in the channel cross-section 30 micron [h] x 45 micron [w] leads to reduce the pressure drop significantly i.e., around 40 kPa at 100 microliter/min, which demands by cartridge based micro-pump for portable devices at Point of Care (PoC) location. Lab on chip of present invention is capable of withstanding 20 V_{pp} for several hours without degradation of electrodes and also capable to measure the particle with dimension down to 2 microns. Lab on chip of present invention was also used to count the platelet of the diluted blood samples without any pretreatment and comparable to the clinical lab report.

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