PDMS-based protein chip for simultaneous tests of multiple samples

KyoungHwan Park, Hyun Gyu Park
Department of Chemical and Biomolecular Engineering,
Korea Advanced Institute of Science and Technology, Taejon, Korea
TEL : +82-42-869-3972, FAX: +82-42-869-3910

There have been many reports about Lab-on-a-chip (LOC) for personal test ; pregnancy test kit, blood glucose test kit, etc.[1] However, little has been reported about a chip for simultaneous tests of multiple samples. The 'Multi-testing' chip offer cost and time-effective alternative, particularly in applications in which a large number of samples need to be tested for same biological materials[2]. Sample solution such as human serum and buffer solution were injected through micro-channels and reacted with biological materials immobilized on reaction chambers. For the same reaction conditions within reaction chambers, computational fluid dynamics was carried out by using CFD simulation[3]. The microchip was fabricated through a conventional process using polydimethylsiloxane (PDMS) and SU-8, and fluorescence was used for detecting the protein interaction on the chip.

References

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