

LAB ON CHIP FOR MOLECULAR DIAGNOSTICS

INVENTION DESCRIPTIONS

A modular lab on chip for molecular diagnostics were successfully designed and fabricated for clinical applications. Three types of automated miniature devices were lab on chip for serum generation, RNA virus extraction and RT-PCR for DNA amplification. Studies on verification and validation of each lab on chip for quality assurance using real samples produced comparable results to conventional protocol.

KNOWLEDGE MANAGEMENT

- ✓ Training on handling lab on chip

COMMERCIALIZABILITY

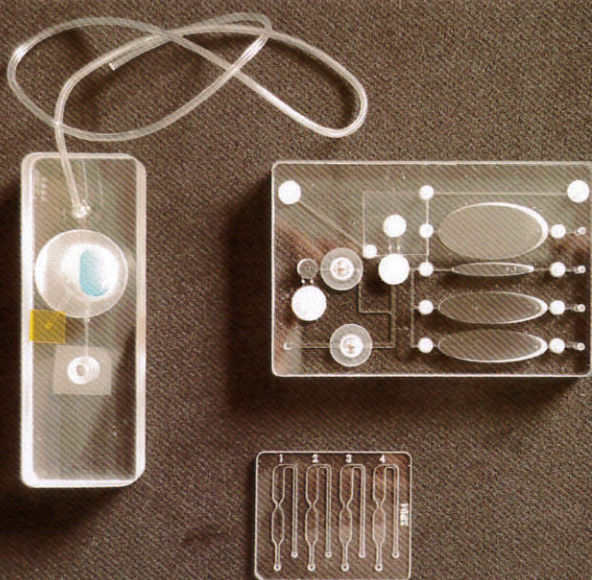
- ✓ Modular lab on chip developed is potential to be commercialized as sample preparation, RNA virus extraction and DNA amplification kit.

APPLICABILITY OF THE PRODUCT:

These lab on chips offer the possibility of working in clean and safe lab environment by incorporating many necessary reagents as possible on the device. Therefore, this will greatly reduce the cross-contamination of the sample and protect personnel from hazardous pathogen.

Another major advantages of this development is low amount of valuable clinical sample and reagents used approximately 1/100 of the volume used in the conventional laboratory set-up to obtain similar results. Thus, this system lead to a portable and easy to use device as the throughput of the laboratory test and analysis of samples also can be performed on fields.

Microfluidic chips



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