

Highly sensitive RNA chip to detect viable bacteria

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The presence of these bacteria such as *Escherichia coli* and *Salmonella* in food or water indicates that bacterial contamination has occurred and consumers can be exposed to enteric pathogens. Especially, detection of RNA in bacteria provides the sophisticated measurement of viable pathogen. Therefore, we developed highly sensitive RNA chip to detect viable bacteria by adding preconcentration process prior to amplification in order to increase low concentration of RNA. Concentrated RNA was amplified using nucleic acid sequence-based amplification (NASBA), that is isothermal amplification method. Finally progress of preconcentration and amplification was applied to one-chamber RNA Chip. We developed new single RNA chip having whole process from cell lysis to amplification in a chip. It provides fast and simple method to detect low concentration of pathogen.

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