

## Rapid Detection System of Airborne Pathogens

**Authors :** Shigenori Togashi, Kei Takenaka

**Abstract :** We developed new processes which can collect and detect rapidly airborne pathogens such as the avian flu virus for the pandemic prevention. The fluorescence antibody technique is known as one of high-sensitive detection methods for viruses, but this needs up to a few hours to bind sufficient fluorescence dyes to viruses for detection. In this paper, we developed a mist-labeling can detect substitution viruses in a short time to improve the binding rate of fluorescent dyes and substitution viruses by the micro reaction process. Moreover, we developed the rapid detection system with the above 'mist labeling'. The detection system set with a sampling bag collecting patient's breath and a cartridge can detect automatically pathogens within 10 minutes.

**Keywords :** viruses, sampler, mist, detection, fluorescent dyes, microreaction

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