Press Release

February 1, 2024

JNC Launches Magnetic Separation Reagent for SARS-CoV-2 in Wastewater

JNC Corporation (Head office: Chiyoda-ku, Tokyo; CEO and President: Keizo Yamada) and Professor Eiji Haramoto of the Interdisciplinary Center for River Basin Environment, University of Yamanashi (Main campus: Kofu, Yamanashi Prefecture; President: Kazuhiko Nakamura) have jointly developed "Pegcision® Kit", magnetic nanoparticles for wastewater-based epidemiological survey (hereinafter, our product (Figure 1)). We are pleased to announce that JNC Corporation has launched the sale of the developed kit on February 1, 2024.

COVID-19 was downgraded on May 8, 2023 under the infectious disease control law to "Category 5," the same as seasonal influenza. Infection surveillance is now based on the number of new cases reported from sentinel medical institutions under the law. In addition to this, it is needed to conduct multi-level verification including seroepidemiological survey (antibody prevalence study), wastewater-based epidemiological survey, and so forth.
As a reagent for concentrating SARS-CoV-2 present in wastewater, our product enables labor saving in cumbersome pretreatment（Figure 2）. It has also been confirmed that the recovery ratio is comparable to or higher than that of the polyethylene glycol (PEG) precipitation method recommended in the "Manual for Detection of SARS-CoV-2 RNA in Wastewater" by the COVID-19 Taskforce of the Japan Society on Water Environment. Further, our product, which enables freeze preservation of concentrated wastewater samples, contributes to reduction in the volume of wastewater samples and thus can also be used as a reagent for sample banks.

We have utilized our product to conduct the monitoring of SARS-CoV-2 in influent of wastewater treatment plants and confirmed that the quantitative detection of the virus is possible.

We will continue further technological development in the hope of extensive adoption of wastewater-based epidemiological survey.

Figure 1. Pegcision® Kit

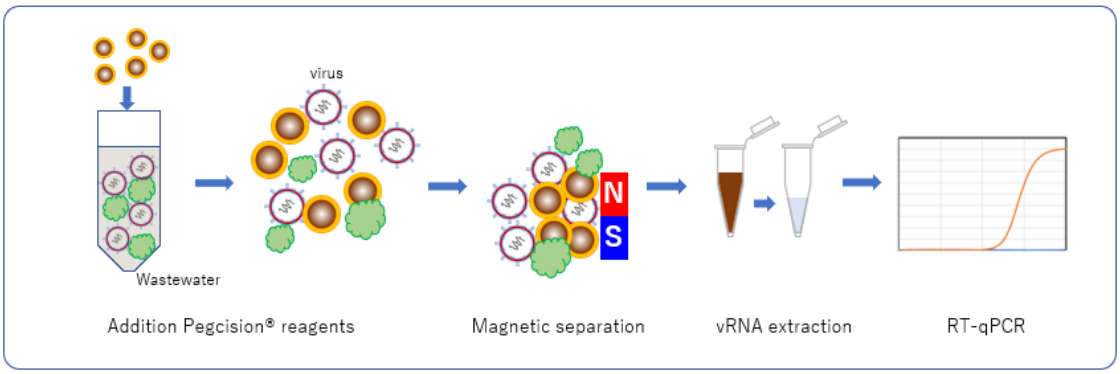

Figure 2. Concentration and detection procedure for viruses in wastewater by Pegcision® method

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