

UGM Faculty of Pharmacy Produces Viral Transport Medium for Covid-19 Detection

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During the outbreak of the Covid-19 pandemic, one of the problems was the lack of VTM (viral transport medium or viral carrier media). Some orders made by competent parties never arrive.

Seeing this condition, the Faculty of Pharmacy, Universitas Gadjah Mada, held a VTM procurement program to support testing of the Covid-19 virus. Viral transport medium (VTM) is a carrier for nasal and throat mucus specimens of patients that will be swab tested then it will proceed to the laboratory for further testing.

Patients suspected of being infected with SARS-CoV2, the virus that causes Covid-19, were taken for nasal and throat mucus specimens and then followed by PCR (Polymerase Chain Reaction) tests. Positive results through the rapid test version need to be further confirmed by this PCR (Polymerase Chain Reaction) swab test.

"The PCR swab test is a test with the relatively most valid results for diagnosing infection with SARS-CoV2, the virus that causes Covid-19. So far, there are UGM laboratories used for Covid-19 detection," Ika Puspitasari, Ph.D., Chair of the Pharmacist Profession Study Program on Wednesday

(15/4).

Seeing this phenomenon, researchers and laboratory assistants and staff of the UGM Faculty of Pharmacy took the initiative to conduct a VTM procurement program to support PCR (Polymerase Chain Reaction) swab testing of the Covid-19 virus. The manufacturing process carried out in the UGM Advanced Faculty of Pharmaceutical Sciences (APS) Laboratory.

"This VTM made at the UGM Faculty of Pharmacy to meet its needs in several PCR (Polymerase Chain Reaction) swab Testing Laboratories that have been buying VTM ready to use. But lately, orders have not arrived, and those are expensive," she said.

Dr. Riris Istighfari Jenie, Lecturer of the Macromolecular Engineering Lab at the Department of Pharmaceutical Chemistry, UGM Faculty of Pharmacy, explained that the making of VTM refers to the American Centers for Disease Control and Prevention protocol. In its manufacture requires several tools, including biosafety cabinet, water bath, sterile filter size of 0.20-0.45 micron. There are several ingredients used; first, there is Fetal Bovine Serum (FBS), which is then heat-inactivated. Next, there are also Hanks Balanced Salt Solution (HBSS), gentamicin sulfate, amphotericin B.

In brief, the procedure for making VTM involves inactivating FBS in the antibiotic preparation water bath by mixing the two antibiotics above and mixing the prepared ingredients into the HBSS buffer. Storage of VTM preparations is at a temperature of 2-8 ° C. Riris hopes that the procurement of raw materials for making VTM can be made more accessible or get priority considering that some elements ordered from Jakarta.

"Hopefully, there are no obstacles to this program of activities, considering that Jakarta and some regions are running PSBB, so our shadow will slow down the process of procuring raw materials," she said.

Vice Dean for Research, Community Service, Cooperation, and Alumni of the Faculty of Pharmacy UGM, Dr. rer. nat. Endang Lukitaningsih added that this program is focused on these weeks to meet the needs of VTM in testing laboratories. Therefore, in this VTM procurement activity, the Faculty of Pharmacy UGM involves lecturers and educational staff who have the competence and expertise for it.

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