

# **Isolation of Dengue Virus from Symptomatic Dengue Patients and Asymptomatic Individuals**

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## **Abstract**

Annually, 100 million people are affected from dengue infection, worldwide. However, it has been found that large number of people survives asymptotically with dengue infection. The immunogenic molecules, viral genotypes and viral load would be the possible factors behind asymptomatic dengue infection. Investigating the molecules which help some individuals to survive asymptotically, against dengue infection would be helpful for future vaccine development. Therefore, here, the efforts have been made to isolate the dengue virus from symptomatic dengue patients and asymptomatic individuals.

Samples of the symptomatic category were collected from Lady Ridgway Hospital Colombo and the asymptomatic samples were obtained from school children in Colombo district. The sample transportation, plasma separation, storage and dengue ELISA, IgM test was conducted at the Medical Research Institute (MRI), Colombo according to the guide line of World Health Organization (WHO). Virus Isolation, Immune fluorescence assay and RT-PCR (using 5' universal primer) was conducted at the Research Institute of Microbial Diseases, Osaka University, Japan.

The dengue virus was isolated from 1 sample out of total 310 samples of asymptomatic category. In symptomatic category, 6 samples were found, RT-PCR positive out of 37 samples, examined. 4 samples out of 6 samples which were PCR positive were IgM negative but showed an elevated absorbance compared to negative control of IgM test.

The isolation of the virus from asymptomatic individuals indicates the possibility of asymptomatic transmission of dengue to non-endemic areas. And the isolation of virus from the symptomatic samples which are IgM negative but having increasing absorbance shows the need of repeating IgM test with a second sample; at any indication of increased absorbance whereas the IgM test is frequently used to diagnose dengue in Sri Lanka.

**Key Words :** *Dengue, ELISA, PCR, Asymptomatic*