First Diagnostic Kit to Detect Biomarkers of Severe Dengue

**DENGUE VIRUS INFECTION**

Dengue virus infection is a mosquito-born disease that has spread very fast in the last 50 years and is endemic in all World Health Organisation (WHO) regions, except European region and in Indonesia, making it a major public health problem. Dengue virus infection may present a broad range of severity, and may appear as an asymptomatic condition, dengue fever or life threatening forms, such as dengue hemorrhagic fever (severe dengue).

Dengue virus is the aethiologic agent of dengue and can be further divided into four types namely Den 1, Den 2, Den 3 and Den 4. All four serotypes can cause the disease but some reports suggest that certain stereotypes are implicated in more severe form of the disease which increases the number of dengue cases and fatality.

There is currently no suitable vaccine or specific anti viral drugs for dengue. Treatment for dengue is usually managed according to symptoms. The case fatality rate for severe dengue can go up to 10% depending on how early the patient is managed properly. Early identification is thus vital to institute suitable management. The present study relates to the identification of biomarkers in serum of dengue patients that can be utilised to identify severe dengue patients early and thus may bring down the case fatality rate.

**COMPETITIVE ADVANTAGES**

- There is currently no kit available for the prediction of severe dengue
- Seven proteins that have been sound to be used as biomarkers for severe dengue are subjected to validation, and all seven biomarkers are found to be significant in the patients
- The testing mechanism enables test results to be obtained within 2 – 3 hours
- Have high sensitivity and specificity

**MARKET POTENTIAL**

There is currently no commercially available diagnostic kit for the detection of biomarkers of severe dengue. However there is a demand for such testing as management of severe dengue patients will improve. This will result in lower morbidity and mortality rates, and translates into lower cost in patient management. The cost of testing depends on the platform of testing and the demand for the tests. Potential users for the test kit are hospitals, clinics, health screening centres and healthcare providers.