



Technology DRDO 078: Dengue IgM ELISA

Dengue, the most common arboviral illness transmitted worldwide, is caused by infection with 1 of the 4 serotypes of dengue virus. Dengue is transmitted by mosquitoes of the genus *Aedes*, which are widely distributed in subtropical and tropical areas of the world, and is classified as a major global health threat by the World Health Organization (WHO).

The innovation is a type of medical equipment and reagents in the form of kit for early detection of dengue fever. The subject technology is based on indirect ELISA principle, using recombinant dengue protein antigen. The wells of ELISA plate is coated with recombinant dengue antigens. The Dengue specific antibodies present in the test sera bind with antigen. The reaction is further processed with the addition of antihuman IgM-HRP conjugate. The reaction is observed through colorimetric interaction with chromogen. Color development is indicative of the presence of Dengue virus specific IgM antibodies in the test sample.

The technology claims that the cross reactivity with other co-circulating members of flavivirus group are ruled out by employing recombinant antigen; thereby making the kit more specific for dengue virus only.

Whereas the commercially available Dengue IgM ELISA kits are reported to have false positive results with malaria, leptospira, typhoid, etc. this kit is validated with more than 100 serum samples collected from recent Dengue outbreaks in India. Users of the kit have seen >85% correlation with widely used commercial diagnostic kit.

The technology is a self contained comprehensive kit pack; hence no extra reagent and instrument is required.

Dengue infection is widely occurring in tropical and subtropical regions of the world and posing serious human health problems. If it is not diagnose early the disease may be fatal. Therefore there is need to develop a handy system for dengue diagnosis with high specificity. This kit will be useful for early diagnosis of dengue infection with high degree of sensitivity and specificity.

Development Status

- The test is currently in field testing or trials. These tests should be completed in 1-3 months.

IP Status

- An Indian patent is pending.

Partner Opportunities

- Manufacturing licensing agreements.
- Sales through distribution channels.

Innovator

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