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NIAB develops potential diagnostic biomarker for Japanese encephalitis virus

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The developed biosensor may be able to overcome certain limitations

Researchers at the National Institute of Animal Biotechnology (NIAB), Hyderabad have developed Fluorine Doped Tin Oxide (FTO) electrode fabricated with reduced Graphene Oxide (rGO) to treat Japanese Encephalitis Virus (JEV).

The electrochemical-based immunosensor can be used for the rapid, sensitive and specific detection of the Non-Structural 1 (NS1) secretory protein, which is a suitable biomarker for JEV found circulating in the blood and has been reported to elicit an immune response.

Since the conventional methods for JEV diagnosis are expensive, more hazardous and time-consuming diagnostic techniques and require an elaborate laboratory set-up and trained expertise, the developed biosensor may be able to overcome these limitations. Detection of the NS1 instead of antibody has an added advantage since the antigen is present from day one of the infection and hence facilitates early detection.