

Diagnostic ELISA kit for detection of Japanese Encephalitis virus

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Technology Domain: Diagnostics

Disease Area: Communicable Diseases
– Vector Borne Diseases (other than Malaria)

Need and utility of the Technology from Public health perspective:

Japanese Encephalitis (JE) is a mosquito-borne viral disease prevailing cause of seasonal viral encephalitis. Transmitted by Culex mosquitoes, the virus belongs to the Flavivirus genus. IgM Capture ELISA enables presumptive diagnosis by detecting virus-specific IgM antibodies in serum or CSF of symptomatic patients.

Technology Readiness level (TRL):

The technology has been standardized for up scaling.

It is currently in regular production and **the kits are being supplied to sentinel surveillance hospitals and apex referral laboratories under national program.**

Validation Status and outcome:

The present JE IgM kit has been evaluated by Centers for Disease control (CDC), Fort Collins, CO, USA for its performance. The kit has a diagnostic sensitivity of 81% and diagnostic specificity of 86%. The kit has high inter and intra assay reproducibility.

Market Potential:

The IgM-based Diagnostic ELISA Kit for Japanese Encephalitis Virus (JEV) presents a compelling market opportunity, especially across Asia-Pacific regions where JEV remains a major public health threat. With over 3 billion people at risk and frequent outbreaks in countries like India, China, and Southeast Asia, there is a pressing need for scalable, accurate, and cost-effective diagnostic solutions. This ELISA kit enables reliable detection of IgG antibodies, making it ideal for surveillance, post-vaccination monitoring, and epidemiological studies. Its ease of use and adaptability to low-resource settings enhance its appeal for public health programs and private diagnostic labs alike. As global health agencies intensify efforts to combat vector-borne diseases, and climate change expands the geographic reach of JEV, the demand for such diagnostic technologies is poised for robust growth.

Publication: Gadkari DA, Shaikh BH (1984) IgM Antibody Capture ELISA in the diagnosis of Japanese encephalitis, West Nile & dengue virus infections. Indian J Med Res. 80: 613-9 ([PMID: 6099824](#)).

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