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New field test allows rapid diagnosis of Chikungunya virus infection

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CHIKV infection causes symptoms that are similar to Dengue and Zika as well as other viral diseases, including influenza. Accurate diagnosis of CHIKV is important for effective outbreak responses, including patient management and mosquito control. A study published in *PLOS Neglected Tropical Diseases* reports a rapid accurate test for CHIKV that is performed in a small portable laboratory and can be used anywhere.

Matthias Niedrig, from the Robert-Koch-Institute in Berlin, Germany, and colleagues work on rapid, cheap, and easy diagnostic assays for CHIKV and related viruses. In this study, they developed a reverse transcriptase (RT) recombinase polymerase amplification (RPA) assay for rapid detection of CHIKV in clinical samples. RPA-based detection of small amounts of DNA is an alternative to PCR and based on reactions that can run at constant temperatures rather than needing a thermal cycler. By adding RT, the assay can detect small amounts of RNA, including sequences unique to specific RNA viruses.

Discussing the findings, the researchers highlight that RPA reagents are stable at ambient temperature (25-38°C), meaning they do not need to be refrigerated. In its current form, however, the assay still requires multiple pipetting steps, and the researchers say further simplification and miniaturization is needed to bring the cost down from the current 5 USD per sample 1 USD, which would maximize use in affected countries.

More information: *PLOS Neglected Tropical Diseases*,

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