

# CRISPR-Cas12a-based assay and kit for detecting the presence of *Burkholderia pseudomallei* (Meloidosis) “MelioGlowPCR”

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**About the Technology:** MelioGlowPCR is a multiplex PCR–CRISPR-Cas–based assay for detecting *Burkholderia pseudomallei*, the causative agent of Melioidosis. The method employs multiplex PCR targeting two highly specific regions of the Type 3 Secretion System (T3SS), followed by Cas12a-based detection. Upon recognizing the target via *B. pseudomallei*-specific gRNAs, the activated Cas12a cleaves a fluorescent reporter, producing a signal that can be observed by the naked eye or with a detector under blue-light illumination.

**Technology ID:** ICMR/EoI/PM/26/CRISPR Melioidosis diagnostic/2026

**Lead Inventor:** Dr. Md. Atique Ahmed

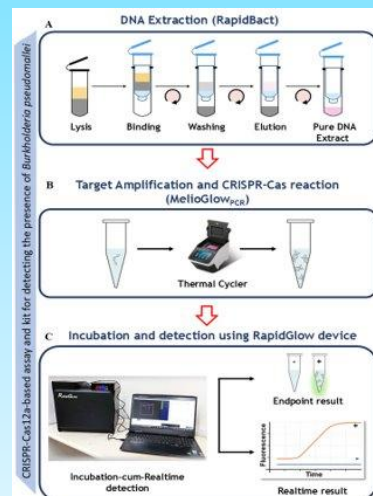
**Institute:** ICMR–Regional Medical Research Centre, NE Region, Dibrugarh, Assam

**Technology Domain:** Diagnostic

**Need and utility of the Technology from Public health perspective:** Rapid, accurate, & low-cost diagnosis of melioidosis enables early and appropriate treatment, minimizes misdiagnosis with diseases like TB, and improves treatment outcomes in endemic public health settings.

## Technology Readiness level (TRL):

TRL-3: Validated at in house laboratory



## Validation Status and Study Outcome:

- Inhouse Validation –Ongoing
- Efficacy Outcome: 153 clinical samples demonstrated 100% sensitivity and specificity with an ultra-low limit of detection (~1 DNA copy per reaction)

**Publication:** NA

**Market Potential:** Rapid, low-cost molecular diagnostics positions MelioGlow PCR strongly for adoption in endemic and resource-limited healthcare settings.

**Unmet need:** Rapid melioidosis diagnostics remain scarce in endemic, resource-limited settings.

**IP Filing:** Indian Patent Application

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