CRISPR-Cas12a-based assay and kit for detecting the presence of Burkholderia pseudomallei (Melioidosis) "MelioGlowPCR"

Click Here for Detailed EoI Document

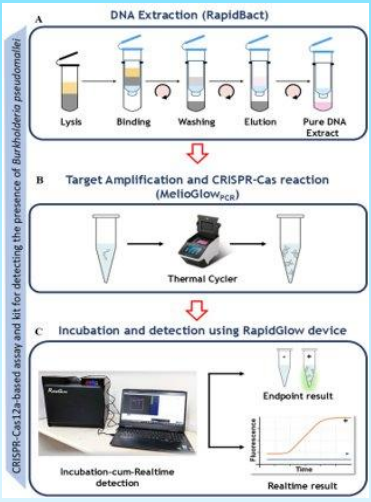
About the Technology: MelioGlowPCR is a multiplex PCR–CRISPR-Cas–based assay for detecting Burkholderia pseudomallei, the causative agent of Melioidosis. The method employs multiplex PCR targeting two highly specific regions of the Type 3 Secretion System (T3SS), followed by Cas12a-based detection. Upon 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
EoI Published on: 4th Aug 2026
EoI Deadline: 25th Aug 2026

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)

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.

Publication: NA

IP Filing: Indian Patent Application No: 202611027382