**Table S1** CRISPR-based diagnostics for TB and drug-resistant TB

| Effector | Strategy | Target | DNA extraction | Sample | Time | LOD | Sensitivity | Specificity | Ref |
|---|---|---|---|---|---|---|---|---|---|
| Cas12a | A recombinase polymerase amplification (RPA) step with CRISPR-based detection | *Mtb* IS6110 | A combination strategy of beads beating, chemical lysis, and heating | Sputum | 1.5h | 5 copies/μL | 79% | 98% | [237] |
| Cas12b | TB-QUICK: loop-mediated isothermal amplification (LAMP) and CRISPR/Cas12b detection | *Mtb* IS6110 | QIAamp Blood Mini Kit and QIAamp Circulating Nucleic Acid Kit | Pulmonary (sputum, bronchoalveolar lavage fluid) or plasma samples | 2h | 1.3 copy/μL | Pulmonary: 86.8% Plasma: 41.2% for AFB-positive and 31.7% for AFB-negative patients | 95.2% | [238] |
| Lba Cas12a | CRISPR detection of circulating cell-free Mycobacterium tuberculosis DNA in adults and children, including children with HIV | *Mtb* IS6110, esxB, gyrB | The Quick-cfDNA Serum & Plasma | Serum | 2h | 0.06 copy/μL | 68%-100% | - | [160] |
| LwCas13a | A sensitive Mycobacterium tuberculosis (MTB) complex polymerase chain reaction (PCR)-CRISPR/Cas13a detection method (CRISPR-MTB) | *Mtb* IS1081 | Conventional DNA extraction | Sputum, BALF, and pus samples | | 1 target sequence copy/μL | 97.2%-100% | 95.5% | [239] |
| Cas9 | A CRISPR/Cas-9-mediated fluorescent strategy utilizing fluorescence resonance energy transfer (FRET) | High-variable region of M. tuberculosis 16S rDNA fragment | - | Simulated sputum samples | 2h | 20 CFU $mL^{-1}$ | - | - | [240] |
| Cas12b | CRISPR/CRISPR-associated 12b nuclease CRISPR/Cas12b-based multiple cross displacement amplification technique (CRISPR-MCDA) | *Mtb* IS6110 | Genomic DNA extraction kits | Sputum | 70min | 5 fg/μL of genomic DNA extracted from the MTB reference strain H37Rv. | - | 100% | [241] |
| Cas9 | Finding Low Abundance Sequences by Hybridization (FLASH) | FLASH to amplify 52 candidate genes probably associated with resistance to first- and second-line drugs in the Mtb reference strain (H37Rv) | Mechanical disruption method | The laboratory H37Rv *Mtb* reference strain, cultured isolates, and sputum | - | - | - | Drug resistance predictions for 15/16 (93.7%) clinical samples | [171] |
| Cas9 | A Cas9/gRNA-assisted quantitative real-time PCR (qRT-PCR) (CARP) assay | S531 and H526 positions in the rifampicin (RIF)-resistance-determining region (RRDR) of the Mtb rpoB gene | - | M. tuberculosis genomic DNA template | ~4h | less than 0.0001 femtogram of mycobacterial genomic DNA. | - | 100% | [170] |