Supplementary Materials

Establishment of a rapid and sensitive method based on Recombinase Polymerase Amplification to detect mts90, a new molecular target of *Mycobacterium tuberculosis*

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Figure S1. Screening for primers by electrophoresis and fluorescent dye. (A) Different primer pairs were analyzed by electrophoresis analysis. Lane 1, 2: F3/R2; lane 3, 4: F2/R2; lane 5: F4/R1; lane 6: F3/R1; lane 7, 8: F2/R2; lane M = 500 bp DNA ladder. The primer pair of F3/R2 was selected. (B) Amplification effect of different primers was monitored in real time by EvaGreen® Dye. There was a significant difference in fluorescence intensity between positive and negative amplification of F3/R5. (C) The melting curve of F3/R5. It proved the specific amplification. The RPA reactions analyzed by Gel were performed in 39°C water bath, while RPA reactions with EvaGreen® Dye were played in the Rotor-Gene Q. The template of screening primers was 0.1μg mts90 standard plasmid per reaction.
(☐ positive reaction; ☐ no template control).

**Figure S2. The secondary structures of probes.** (A) The probe of P1. (B) The probe of P2. Schematic illustration of the secondary structures for the designed probes was showed online (http://www.nupack.org/), each probe was analyzed at a concentration of 0.12 nM in 39 °C.