

A)

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          GCCATCT CCGATGACG C (F3) AGC CCATCATGAA
1 GTGGAGGATT TAAGCCATCT CCTGATGACG CATAGTCAGC CCATCATGAA
  CACCTCCTAA ATTCGGTAGA GGACTIONTC GTATCAGTCG GGTAGTACTT

          TGTGGT (F2)
51 TGTGGTCTC GATGACAGGT TGTACAAAG GGAGAAGGGC ATGGCGAGCG
  ACAACCACAG CACTGTCCA ACAATGTTTC CCTCTTCCCG TACCGCTCGC
  ACAG CACTGTCCA ACAATGTTTC (LF) CGCTCGC

          CTGGG GCGAGGTCGT GGTAT (B1c)
101 TACAGCTGCA AAATGTAACG AAAGCCTGGG GCGAGGTCGT GGTATCGAAA
  ATGTCGACGT TTTACATTGC TTTCCGACCC CGCTCCAGCA CCATAGCTTT
  ATGTCGACGT TTTAC (F1c)

          ATCAATC TCGATATCCA TGAAGGTG (LB)
151 GATATCAATC TCGATATCCA TGAAGGTGAA TTCGTGGTGT TTGTCGGACC
  CTATAGTTAG AGCTATAGGT ACTTCCACTT AAGCACCACA AACAGCCTGG
          TT AAGCACCACA AACAGCCT (B2)
          G
201 GTCTGGCTGC GGTAATCGA CTTTACTGCG CATGATTGCC GGGCTTGAGA
  CAGACCGACG CCATTTAGCT GAAATGACGC GTACTAACGG CCCGAACTCT
  CAGACCGACG CCATTTA (B3)

251 CGATCACCAG CGGCGACCTG TTCATCGGTG AGAAACGGAT GAATGACACT
  GCTAGTGGTC GCCGCTGGAC AAGTAGCCAC TCTTTGCCTA CTTACTGTGA

301 CCGCCAGCAG AACGCGGCGT TGGTATGGTG TTTC
  GGCGGTCGTC TTGCGCCGCA ACCATACCAC AAAG

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B)

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1 GTGGAGGATT TAAGCCATCT CCTGATGACG CATAGTCAGC CCATCATGAA
  CACCTCCTAA ATTCGGTAGA GGACTIONTC GTATCAGTCG GGTAGTACTT

          CAAAG GGAGAAGGGC ATGG (F2)
          GGTGTC GATGACAGGT TGT (F3)
51 TGTGGTCTC GATGACAGGT TGTACAAAG GGAGAAGGGC ATGGCGAGCG
  ACAACCACAG CACTGTCCA ACAATGTTTC CCTCTTCCCG TACCGCTCGC
          CGC

101 TACAGCTGCA AAATGTAACG AAAGCCTGGG GCGAGGTCGT GGTATCGAAA
  ATGTCGACGT TTTACATTGC TTTCCGACCC CGCTCCAGCA CCATAGCTTT
  ATGTCGACGT TTTACATTGC (LF) ACCC CGCTCCAGCA CCATAG (F1c)

          A TTCGTGGTGT TTGTCGGACC
151 GATATCAATC TCGATATCCA TGAAGGTGAA TTCGTGGTGT TTGTCGGACC
  CTATAGTTAG AGCTATAGGT ACTTCCACTT AAGCACCACA AACAGCCTGG

          G (B1c) GGCTGC GGTAATCGA CTTTACT (LB)
201 GTCTGGCTGC GGTAATCGA CTTTACTGCG CATGATTGCC GGGCTTGAGA
  CAGACCGACG CCATTTAGCT GAAATGACGC GTACTAACGG CCCGAACTCT
          ACTAACGG CCCGAACTCT (B2)

251 CGATCACCAG CGGCGACCTG TTCATCGGTG AGAAACGGAT GAATGACACT
  GCTAGTGGTC GCCGCTGGAC AAGTAGCCAC TCTTTGCCTA CTTACTGTGA
          AC AAGTAGCCAC TCTTTGCC (B3)

301 CCGCCAGCAG AACGCGGCGT TGGTATGGTG TTTC
  GGCGGTCGTC TTGCGCCGCA ACCATACCAC AAAG

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Figure S1: The sequence of the *malB* gene with the different primer sets used. A) The sequence of *malB* gene with the position of the different primers used in the publication of Hill, J. et al. The red rectangle indicates the position of the overlap between primers F2 and LF. B) The sequence of *malB* gene with the position of the different primers designed in this study.

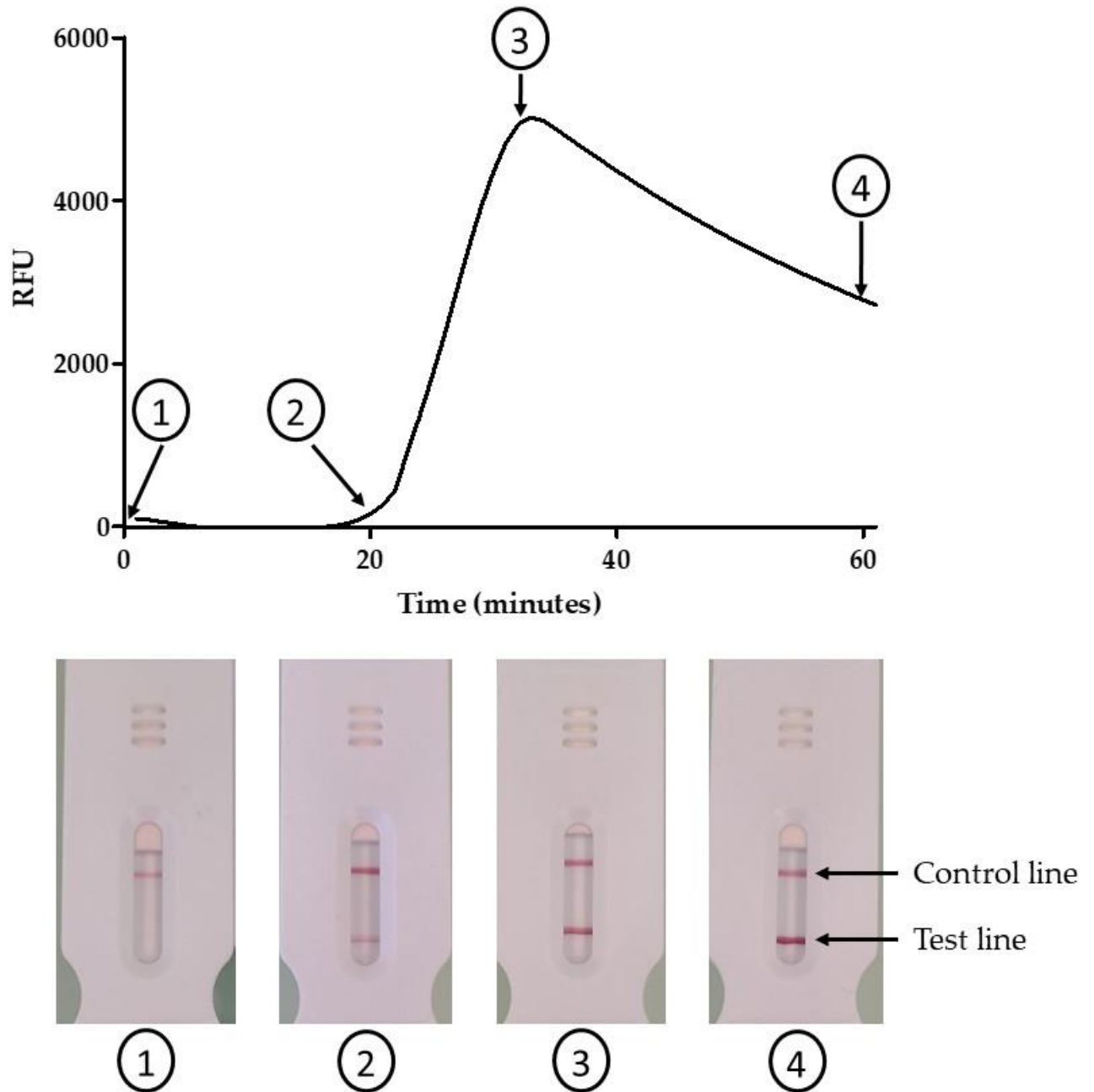


Figure S2: Amplicon detection by LFIA at different stages of the amplification curve of the *malB* gene. 1 ml of *E. coli* at 10^8 cfu/ml was filtered with the filtration/extraction unit of the SPID. The cup was then transferred into the tank, and 180 μ L of LAMP reaction solution were added to the cup. The tank was closed, so the liquid filtered down to the bottom of the tank. Amplification was then performed using a thermal cycler (CFX Opus 96, Biorad, Hercules, USA). For this, 24.5 μ L of the filtrated solution were deposited in a PCR tube with 0.5 μ L of LAMP fluorescent dye. The amplification at 63°C was stopped at different times. 10 μ L of the solution was mixed with 10 μ L of mAb anti-biotin labeled with colloidal gold and 80 μ L of the conjugate buffer. The mixture was deposited on the LFIA test and the result was read after 15 minutes. The graph represents the amplification curve and the numbers indicate the stages of the different amplicon detections. Below the graph we can see the results of the amplicon detection with LFIA at the different stages.

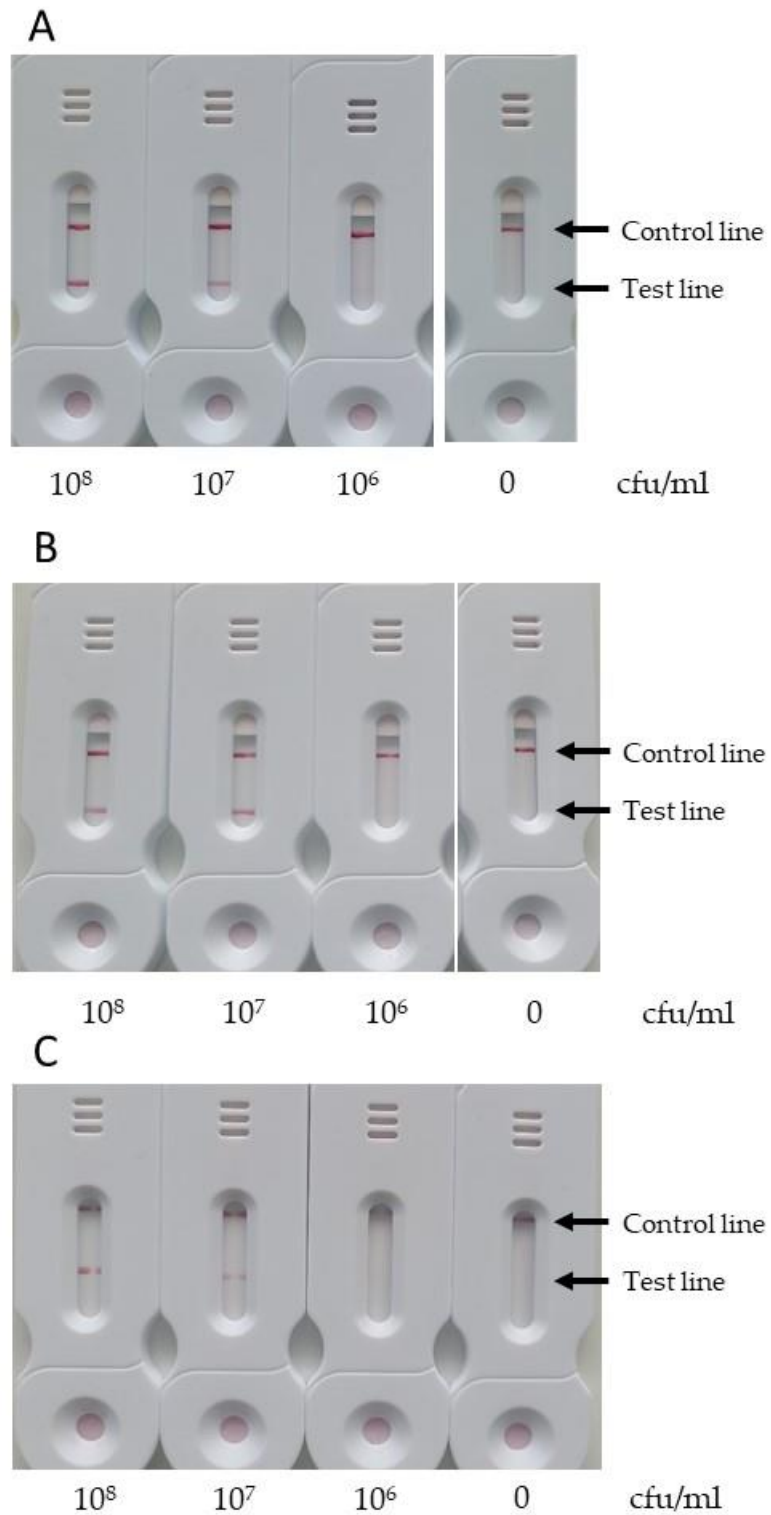


Figure S3: Evaluation of the limit of detection. Different concentrations of *E. coli* were tested for 30 minutes amplification at 63°C. The results were read after 30 minutes. **A** and **B**: Experiments carried out on the same day but with a different Bst enzyme. **C**: Experiment carried out on another day.

Table S1: List of bacterial isolates used in this study

Isolate #	Isolate name	Organism
1	2009-47	<i>C. freundii</i>
2	2008-85	<i>E. coli</i>
3	EcM-8	<i>E. coli</i>
4	210135	<i>C. freundii</i>
5	2009-85	<i>K. oxytoca</i>
6	G1R4	<i>K. pneumoniae</i>
7	19/08/15	<i>K. pneumoniae</i>
8	2010-73	<i>E. coli</i>
9	2008-87	<i>E. coli</i>
10	A3O31	<i>E. coli</i>
11	2010-231	<i>E. coli</i>
12	2011-11C	<i>P. mirabilis</i>
13	31MC1	<i>E. coli</i>
14	M271	<i>E. coli</i>
15	EcM-8	<i>E. coli</i>
16	ST131	<i>E. coli</i>
17	ST157	<i>K. pneumoniae</i>
18	1F9	<i>K. pneumoniae</i>
19	3B1	<i>K. pneumoniae</i>
20	D3R10	<i>K. pneumoniae</i>
21	1A10	<i>E. coli</i>
22	1B1	<i>K. pneumoniae</i>
23	1A6	<i>E. coli</i>
24	2D1	<i>C. freundii</i>
25	O63J6	<i>P. aeruginosa</i>
26	2B9	<i>C. koseri</i>
27	2B6	<i>E. cloacae</i>
28	2A9	<i>K. pneumoniae</i>
29	140H2	<i>C. freundii</i>
30	I1DR8	<i>K. pneumoniae</i>
31	J1R8	<i>K. pneumoniae</i>
32	F1O26	<i>P. aeruginosa</i>