

1 **Phage & Phosphatase: A novel phage-based probe for rapid, multi-platform** 2 **detection of bacteria**

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7 **Supplemental Materials 1**

8 DNA Sequence of *phoA* construct.

9 GAATTC¹CGTTCTCGAGGCCATGAAGATGGAGACCGAGATCAACGCTCCCACCGACGGCAAGGTCGAG
10 AAGGTCCTTGTC AAGGAGCGTGACGCCGTGCAGGGCGGT CAGGGTCTCATCAAGATCGGCTGA²TGAA
11 TGAATGAT³AATTAATACGACTCACTATAGGGAGA⁴CCACAACGGTTCCCTCTAGAAATAATTTTGTTT
12 AACTTAAAGAAGGAG⁵ATATACATATG⁶CACCACCACCACCACCAC⁷CATAGCAGCGGTCTGCGTAAA
13 ATCTGTACTTCCAAGGC⁸CACATGTCTAGTGTC⁹AAACAATCCACCATCGCACTGGCCCTGCTGCCGCTG
14 CTGTTACGCCGGTCACGAAGGCTCGCACCCCGGAAATGCCGGTCTGGAAAACCGTGCAGCACAAG
15 GTGATATTACCGCACCGGGCGGTGCCCGTGCCTGACCGGTGACCAGACGGCAGCTCTGCGCGATAGC
16 CTGTCTGACAAACCGGCGAAGAACATTATCCTGCTGATTGGTGATGGCATGGGTGACTCTGAAATCAC
17 CGCCGCGCGTAATTATGCAGAAGGCGCGGGCGGCTTTTTCAAAGGTATCGATGCACTGCCGCTGACCG
18 GCCAGTATACGCATTACGCGCTGAACAAAAAGACGGGTAAACCGGATTATGTTACCGACAGTGCAGCT
19 TCCGCAACCGCATGGAGCACGGGTGTTAAACCTACAATGGCGCCCTGGGTGTCGATATTCATGAAAA
20 AGACCACCCGACCATCCTGGAAATGGCTAAGGCGGGCGGGTCTGGCGACGGGTAATGTCTCTACCGCTG
21 AACTGCAGGATGCAACGCCGGCAGCTCTGGTGGCGCACGTTACCAGTCGTAATGCTACGGTCCGTCA
22 GCCACGTCGGAAAAGTGTCCGGGCAACGCACTGGAAAAAGGCGGTAAAGGTTTCGATTACCGAACAGC
23 TGCTGAATGCACGCGCTGATGTGACGCTGGGCGGTGGCGCAAAAACCTTTGCTGAAACCGCGACGGCC
24 GCGAATGGCAAGGTAAAACGCTGCGTGAACAGGCACAAGCTCGCGGCTATCAGCTGGTTAGCGATG
25 CGGCCAGCCTGAACTCTGTTACCGAAGCCAATCAGCAAAAACCGCTGCTGGGCCTGTTTCGCAGATGGT
26 AACATGCCGGTGC GTTGGCTGGGTCCGAAAGCAACCTACCATGGTAATATTGATAAGCCGGCCGTAC
27 CTGCACGCCGAACCCGCAACGCAATGATAGCGTGCCGACGCTGGCCCAGATGACCGACAAAGCAATC
28 GAACTGCTGTCGAAAAACGAAAAGGGCTTTTTCTGCAGGTTGAAGGTGCCAGCATTGATAACAAGA
29 CCACGCAGCTAATCCGTGTGGCCAGATCGGTGAAACCGTCGATCTGGACGAAGCGGTGCAGCGTGCCC

30 TGGAATTTGCGAAGAAAGAAGGCAACACGCTGGTCATTGTGACCGCCGATCATGCGCACGCCTCCCAA
31 ATCGTTGCCCCGGACACCAAAGCACCGGGTCTGACGCAGGCTCTGAACACCAAGGATGGCGCGGTTAT
32 GGTCATGAGTTATGGTAATCCGAAGAAGACTCACAGGAACATAACCGGCTCACAACTGCGTATCGCAG
33 CCTACGGTCCGCACGCAGCTAATGTGGTTGGCCTGACGGATCAAACCGACCTGTTCTACACGATGAAA
34 GCAGCACTGGGTCTGAAACCGTCGTCGCCGTCGC¹¹TAATAA¹²GTCGAC¹³AAGCTT¹⁴

35 Sequence Length: 1743 bp

36 Sequence Features: (1) EcoRI restriction site. (2) 1.3s biotin subunit from *Propionibacterium shermanii*
37 transcarboxylase (3) Stop codons in all three reading frames. (4) T7 Promoter. (5) Ribosome Binding Sequence. (6)
38 Start codon. (7) Histidine tag. (8) TEV cleavage recognition site. (10) Start of alkaline phosphatase. (11) Arginine
39 tag. (12) Stop codons. (13) SalI restriction site. (14) HindIII restriction site.