

**Table S1** The primers of ARGs used for high-throughput quantitative PCR

| Genes                                       | Forward Primer                                        | Reverse Primer                                       | Class          |
|---------------------------------------------|-------------------------------------------------------|------------------------------------------------------|----------------|
| 16S rRNA                                    | GGGTTGCGCTCGTTGC                                      | ATGGYTGTCGTCAGCTCGTG                                 | 16S rRNA       |
| <i>aac(6')</i> -Iy                          | GCTTTGCGGATGCCTCAAT                                   | GGAGAACAAAAATACCTTCA<br>AGGAAA                       | Aminoglycoside |
| <i>aadA9</i> -01                            | CGCGGCAAGCCTATCTTG                                    | CAAATCAGCGACCGCAGACT                                 | Aminoglycoside |
| <i>aph(2')</i> -Id-01                       | TGAGCAGTATCATAAGTTGAGT<br>GAAAAG                      | GACAGAACAATCAATCTCTAT<br>GGAATG                      | Aminoglycoside |
| <i>aac(6')</i> -Ib(aka<br><i>aacA4</i> )-01 | GTTTGAGAGGCAAGGTACCGT<br>AA                           | GAATGCCTGGCGTGTTTGA                                  | Aminoglycoside |
| <i>aac(6')</i> -II                          | CGACCCGACTCCGAACAA                                    | GCACGAATCCTGCCTTCTCA                                 | Aminoglycoside |
| <i>aacC2</i>                                | ACGGCATTCTCGATTGCTTT                                  | CCGAGCTTCACGTAAGCATTT                                | Aminoglycoside |
| <i>aadA1</i>                                | AGCTAAGCGCGAACTGCAAT                                  | TGGCTCGAAGATACCTGCAA                                 | Aminoglycoside |
| <i>aadA5</i> -01                            | ATCACGATCTTGCGATTTTGCT<br>CCGACAACATTTCTACCATCCT<br>T | CTGCGGATGGGCCTAGAAG<br>ACCGAAGCGCTCGTCGTATA          | Aminoglycoside |
| <i>aadE</i>                                 | TACCTTATTGCCCTTGGAAGAG<br>TTA                         | GGAECTATGTCCCTTTTAATT<br>CTACAATCT                   | Aminoglycoside |
| <i>aph6ia</i>                               | CCCATCCCATGTGTAAGGAAA<br>AATGAGTTTTGGAGTGTCTCAA       | GCCACCGCTTCTGCTGTAC<br>AATCAAAACCCCTATTAAAGC         | Aminoglycoside |
| <i>str</i>                                  | CGTA                                                  | CAAT                                                 | Aminoglycoside |
| <i>strA</i>                                 | CCGGTGGCATTGAGAAAAA                                   | GTGGCTCAACCTGCGAAAAG                                 | Aminoglycoside |
| <i>strB</i>                                 | GCTCGGTGCTGAGAACAATCT                                 | CAATTCGGTCGCCTGGTAGT                                 | Aminoglycoside |
| <i>blaROB</i>                               | GCAAAGGCATGACGATTGC                                   | CGCGCTGTTGTCGCTAAA                                   | Beta lactam    |
| <i>blaSHV</i> -01                           | TCCCATGATGAGCACCTTTAAA                                | TTCGTCACCGGCATCCA                                    | Beta lactam    |
| <i>mecA</i>                                 | GGTTACGGACAAGGTGAAATA<br>CTGAT                        | TGTCTTTTAATAAGTGAGGTG<br>CGTTAATA                    | Beta lactam    |
| <i>penA</i>                                 | AGACGGTAACGTATAACTTTTT<br>GAAAGA                      | GCGTGTAGCCGGCAATG                                    | Beta lactam    |
| <i>ampC</i> -01                             | TGGCGTATCGGGTCAATGT                                   | CTCCACGGGCCAGTTGAG                                   | Beta lactam    |
| <i>ampC</i> -06                             | CCGCTCAAGCTGGACCATAC                                  | CCATATCCTGCACGTTGGTTT                                | Beta lactam    |
| <i>ampC</i> -09                             | CAGCCGCTGATGAAAAAATAT<br>G                            | CAGCGAGCCCACTTCGA                                    | Beta lactam    |
| <i>blaCMY</i>                               | CCGCGGCGAAATTAAGC                                     | GCCACTGTTTGCCTGTCAGTT                                | Beta lactam    |
| <i>blaCTX</i> -M-01                         | GGAGGCGTGACGGCTTTT                                    | TTCAGTGCGATCCAGACGAA<br>GTGCCTGAGTCAATTCTTTCA<br>AAG | Beta lactam    |
| <i>blaGES</i>                               | GCAATGTGCTCAACGTTCAAG                                 |                                                      | Beta lactam    |
| <i>blaOXA1/blaOXA3</i><br>0                 | CGGATGGTTTGAAGGGTTTATT<br>AT                          | TCTTGGCTTTTATGCTTGATGT<br>TAA                        | Beta lactam    |
| <i>blaOXY</i>                               | CGTTCAGGCGGCAGGTT                                     | GCCGCGATATAAGATTTGAGA<br>ATT                         | Beta lactam    |

|                         |                                |                                  |                 |
|-------------------------|--------------------------------|----------------------------------|-----------------|
| <i>bla</i> TEM          | AGCATCTTACGGATGGCATGA          | TCCTCCGATCGTTGTCAGAAAG<br>T      | Beta lactam     |
| <i>cml</i> A1-01        | TAGGAAGCATCGGAACGTTGA<br>T     | CAGACCGAGCACGACTGTTG             | Chloramphenicol |
| <i>cmx</i> (A)          | GCGATCGCCATCCTCTGT             | TCGACACGGAGCCTTGGT               | Chloramphenicol |
| <i>cInt</i> I-1(class1) | GGCATCCAAGCAGCAAG              | AAGCAGACTTGACCTGA                | Integron        |
| <i>cInt</i> I-1(clinic) | CGAACGAGTGCGGAGGGTG            | TACCCGAGAGCTTGGCACCCA            | Integron        |
| <i>car</i> B            | GGAGTGAGGCTGACCGTAGAA<br>G     | ATCGGCGAAACGCACAAA               | MLSB            |
| <i>ere</i> A            | CCTGTGGTACGGAGAATTCATG<br>T    | ACCGCATTCGCTTTGCTT               | MLSB            |
| <i>erm</i> (35)         | TTGAAAACGATGTTGCATTAAG<br>TCA  | TCTATAATCACAATAACCAC<br>TTGAACGT | MLSB            |
| <i>erm</i> (36)         | GGCGGACCGACTTGCA               | TCTGCGTTGACGACGGTTAC             | MLSB            |
| <i>erm</i> B            | TAAAGGGCATTTAACGACGAA<br>ACT   | TTTATACCTCTGTTTGTAGGG<br>AATTGAA | MLSB            |
| <i>erm</i> C            | TTTGAAATCGGCTCAGGAAAA          | ATGGTCTATTTCAATGGCAGT<br>TACG    | MLSB            |
| <i>erm</i> F            | CAGCTTTGGTTGAACATTTACG<br>AA   | AAATTCCTAAAATCACAACCG<br>ACAA    | MLSB            |
| <i>erm</i> X            | GCTCAGTGGTCCCATGGT             | ATCCCCCGTCAACGTTT                | MLSB            |
| <i>lmr</i> A-01         | TCGACGTGACCGTAGTGAACA          | CGTGACTACCCAGGTGAGTTG<br>A       | MLSB            |
| <i>lnu</i> B-01         | TGAACATAATCCCCTCGTTTAA<br>AGAT | TAATTGCCCTGTTTCATCGTA<br>AATAA   | MLSB            |
| <i>mdt</i> A            | CCTAACGGGCGTGACTTCA            | TTCACCTGTTTCAAGGGTCAA<br>A       | MLSB            |
| <i>mef</i> A            | CCGTAGCATTGGAACAGCTTTT         | AAACGGAGTATAAGAGTGCT<br>GCAA     | MLSB            |
| <i>vat</i> B-01         | GGAAAAAGCAACTCCATCTCTT<br>GA   | TCCTGGCATAACAGTAACATT<br>CTGA    | MLSB            |
| <i>acr</i> F            | GCGGCCAGGCACAAAA               | TACGCTCTTCCCACGGTTTC             | Multidrug       |
| <i>flo</i> R            | ATTGTCTTCACGGTGTCCGTTA         | CCGCGATGTCGTCGAAC                | Multidrug       |
| <i>mex</i> E            | GGTCAGCACCGACAAGGTCTA<br>C     | AGCTCGACGTACTTGAGGAAC<br>AC      | Multidrug       |
| <i>mex</i> F            | CCGCGAGAAGGCCAAGA              | TTGAGTTCGGCGGTGATGA              | Multidrug       |
| <i>qac</i> A            | TGGCAATAGGAGCTATGGTGTT<br>T    | AAGGTAACACTATTTTCGGTC<br>CAAATC  | Multidrug       |
| <i>tol</i> C-01         | GGCCGAGAACCTGATGCA             | AGACTTACGCAATTCCGGGTT<br>A       | Multidrug       |
| <i>mep</i> A            | ATCGGTCGCTCTTCGTTTAC           | ATAAATAGGATCGAGCTGCTG<br>GAT     | Multidrug       |
| <i>mtr</i> C-01         | GGACGGGAAGATGGTCCAA            | CGTAGCGTTCCGGTTCGAT              | Multidrug       |
| <i>opr</i> D            | ATGAAGTGAGCGCCATTG             | GGCCACGGCGAACTGA                 | Multidrug       |

|                      |                                    |                                  |              |
|----------------------|------------------------------------|----------------------------------|--------------|
| <i>qacH</i> -01      | GTGGCAGCTATCGCTTGGAT               | CCAACGAACGCCCACAA                | Multidrug    |
| <i>ttgA</i>          | ACGCCAATGCCAAACGATT                | GTCACGGCGCAGCTTGA                | Multidrug    |
| <i>yceE</i> /mdtG-01 | TGGCACAAAATATCTGGCAGTT             | TTGTGTGGCGATAAGAGCATT<br>AG      | Multidrug    |
| <i>yceL</i> /mdtH-01 | TCGGGATGGTGGGCAAT                  | CGATAACCGAGCCGATGTAG<br>A        | Multidrug    |
| <i>acrA</i> -01      | CAACGATCGGACGGGTTC                 | TGGCGATGCCACCGTACT               | Multidrug    |
| <i>acrB</i> -01      | AGTCGGTGTTGCGCGTTAAC               | CAAGGAAACGAACGCAATAC<br>C        | Multidrug    |
| <i>cfr</i>           | GCAAAATTCAGAGCAAGTTAC<br>GAA       | AAAATGACTCCCAACCTGCTT<br>TAT     | Others       |
| <i>fabK</i>          | TTTCAGCTCAGCACTTTGGTCA<br>T        | AAGGCATCTTTTTCAGCCAGT<br>TC      | Others       |
| <i>nisB</i>          | GGGAGAGTTGCCGATGTTGTA              | AGCCACTCGTTAAAGGGCAAT            | Others       |
| <i>sat4</i>          | GAATGGGCAAAGCATAAAAAC<br>TTG       | CCGATTTTGAAACCACAATTA<br>TGATA   | Others       |
| <i>dfrA1</i>         | GGAATGGCCCTGATATTCCA               | AGTCTTGCGTCCAACCAACAG            | Sulfonamide  |
| <i>dfrA12</i>        | CCTCTACCGAACCGTCACACA              | GCGACAGCGTTGAAACAAC<br>AC        | Sulfonamide  |
| <i>sul1</i>          | CAGCGCTATGCGCTCAAG                 | ATCCCGCTGCGCTGAGT                | Sulfonamide  |
| <i>sul2</i>          | TCATCTGCCAAACTCGTCGTTA             | GTCAAAGAACGCCGCAATGT             | Sulfonamide  |
| <i>sulA</i> /folP-01 | CAGGCTCGTAAATTGATAGCA<br>GAAG      | CTTTCCTTGCGAATCGCTTT             | Sulfonamide  |
| <i>tet</i> (36)-01   | AGAATACTCAGCAGAGGTCAG<br>TTCCT     | TGGTAGGTCGATAACCCGAAA<br>AT      | Sulfonamide  |
| <i>tetA</i> -01      | GCTGTTTGTCTGCCGAAA                 | GGTTAAGTTCCTTGAACGCAA<br>ACT     | Tetracycline |
| <i>tetB</i> -01      | AGTGCCTTTGGATGCTGTA                | AGCCCCAGTAGCTCCTGTGA             | Tetracycline |
| <i>tetC</i> -01      | CATATCGCAATACATGCGAAA<br>AA        | AAAGCCGCGGTAAATAGCAA             | Tetracycline |
| <i>tetD</i> -01      | TGCCGCGTTTGATTACACA                | CACCAGTGATCCCGGAGATAA            | Tetracycline |
| <i>tetE</i>          | TTGGCGCTGTATGCAATGAT               | CGACGACCTATGCGATCTGA             | Tetracycline |
| <i>tetH</i>          | TTTGGGTCATCTTACCAGCATT<br>AA       | TTGCGCATTATCATCGACAGA            | Tetracycline |
| <i>tetJ</i>          | GGGTGCCGCATTAGATTACCT              | TCGTCCAATGTAGAGCATCCA<br>TA      | Tetracycline |
| <i>tetK</i>          | CAGCAGTCATTGGAAAATTATC<br>TGATTATA | CCTTGTAACCTACCAAAA<br>ATCAAAAATA | Tetracycline |
| <i>tetL</i> -01      | AGCCCGATTTATTCAAGGAATT<br>G        | CAAATGCTTTCCCCCTGTTCT            | Tetracycline |
| <i>tetM</i> -01      | CATCATAGACACGCCAGGACA<br>TAT       | CGCCATCTTTTGAGAAATCA             | Tetracycline |
| <i>tetO</i> -01      | ATGTGGATACTACAACGCATG<br>AGATT     | TGCCTCCACATGATATTTTCC<br>T       | Tetracycline |

|                |                                                |                                                 |              |
|----------------|------------------------------------------------|-------------------------------------------------|--------------|
| <i>tetQ</i>    | CGCCTCAGAAGTAAGTTCATAC<br>ACTAAG               | TCGTTTCATGCGGATATTATCA<br>GAAT                  | Tetracycline |
| <i>tetS</i>    | TTAAGGACAAACTTTCTGACGA<br>CATC                 | TGTCTCCCATTGTTCTGGTTCA                          | Tetracycline |
| <i>tetT</i>    | CCATATAGAGGTTCCACCAAAT<br>CC                   | TGACCCCTATTGGTAGTGGTTC<br>TATTG                 | Tetracycline |
| <i>tetU-01</i> | GTGGCAAAGCAACGGATTG                            | TGCGGGCTTGCAAAACTATC                            | Tetracycline |
| <i>tetX</i>    | AAATTTGTTACCGACACGGAA<br>GTT                   | CATAGCTGAAAAAATCCAGG<br>ACAGTT                  | Tetracycline |
| IS613          | AGGTTTCGGACTCAATGCAACA                         | TTCAGCACATACCGCCTTGAT                           | Transposon   |
| <i>tnpA-01</i> | CATCATCGGACGGACAGAATT                          | GTCGGAGATGTGGGTGTAGA<br>AAGT                    | Transposon   |
| <i>tnpA-02</i> | GGGCGGGTCGATTGAAA                              | GTGGGCGGGATCTGCTT                               | Transposon   |
| <i>tnpA-03</i> | AATTGATGCGGACGGCTTAA                           | TCACCAAACGTGTTATGGAGT<br>CGTT                   | Transposon   |
| Tp614          | GGAAATCAACGGCATCCAGTT<br>AAAAGGCTCTGAAAACGCAGT | CATCCATGCGCTTTTGTCTCT<br>CGGCCGTTATCTTGTA AAAAC | Transposon   |
| <i>vanA</i>    | TAT                                            | AT                                              | Vancomycin   |
| <i>vanB-01</i> | TTGTCGGCGAAGTGGATCA                            | AGCCTTTTTCCGGCTCGTT                             | Vancomycin   |
| <i>vanB-02</i> | CCGGTCGAGGAACGAAATC                            | TCCTCCTGCAAAAAAAGATCA<br>AC                     | Vancomycin   |
| <i>vanRB</i>   | GCCCTGTCGGATGACGAA                             | TTACATAGTCGTCTGCCTCTG<br>CAT                    | Vancomycin   |
| <i>vanXB</i>   | AGGCACAAAATCGAAGATGCT<br>T                     | GGGTATGGCTCATCAATCAAC<br>TT                     | Vancomycin   |

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