Table S1. The Oligonucleotide primers used in this study

| PCR method          | Primer name | Primer sequences(5'→3') | Reference |
|---------------------|-------------|-------------------------|-----------|
| ERIC-PCR            | ERIC1R      | ATGTAAGCTCTGGGGATTCAC   | (1)       |
|                     | ERIC2       | AAGTAAGTGACCTGGGAGCG    | (1)       |
| detection of ESBL genes | CTX-M-1-F  | GCTGTGGTTAGGAAGTGTC     | (2)       |
|                     | CTX-M-1-R   | CCATTGCCGAGGTAAGAG      | (2)       |
|                     | CTX-M-9-F   | GCAGATAATACGCAGGGT     | (2)       |
|                     | CTX-M-9-R   | CGGGGTCGGTGATGCTCT     | (2)       |
| phylogenetic classification | chuA.1b    | ATGGTACCGGACGAAACAC    | (3)       |
|                     | chuA.2      | TGCCGCCAGTACAAAAGCA     | (4)       |
|                     | yjaA.1b     | CAAACGTAAGTGTCAGGAG    | (3)       |
|                     | yjaA.2b     | AATGCGTTCTCTAACCTGT    | (3)       |
|                     | TspE4C2.1b  | CACTATTGTAAGGTACC      | (3)       |
|                     | TspE4C2.2b  | AGTTTAATCTGGCAGGTG     | (3)       |
|                     | AceK.f      | AACGCTATTGCGCACCTTG    | (3)       |
|                     | ArpA1.r     | TCTCCCAACTACGTACGCT    | (5)       |
|                     | ArpAgpE.f   | GATTCCATCTTTGCTAACATAC| (6)       |
|                     | ArpAgpE.r   | GAAAGAAAAAGAATACCCAAA  | (6)       |
|                     | trpAgpC.1   | AGGGGGTATGCCCCAGTTC    | (6)       |
|                     | trpAgpC.2   | TCTGGCGCCGTCACGCCC    | (6)       |
| MLST-PCR            | ST73_for    | TGGTTTTACCATTTTTGTC    | (8)       |
|                     | ST73_rev    | GGAATCGGTTGATGTCGCT    | (8)       |
|                     | ST131_for   | GACTGCATTTTGTCGCAATA   | (8)       |
|                     | ST131_rev   | CCGGCGGCATACATAATGAAA  | (8)       |
|                     | ST95_for    | ACTAATACGGAAGTGGCGAAG  | (8)       |
|                     | ST95_rev    | ATCAGGCCCATTATATCAGT   | (8)       |
|                     | ST69_for    | ATCTGAGGGCAAAACACAT    | (8)       |
|                     | ST69_rev    | AGAGAAAAGGCGCTTCAGAAT  | (8)       |
|                     | adk_F       | ATTTGCTTGGCGCTCCGGG    | (9)       |
|                     | adk_R       | CGTGCAACTCTCTCGGTAAT   | (9)       |
|                     | fumC_F      | TCAGGACACGGTACGCTTC    | (9)       |
|                     | fumC_R      | GACCGCAACCGAAGATTG     | (9)       |
|                     | gyrB_F      | TCGGCGACACGAGTACGCG    | (9)       |
gyrB_R  ATCAGGCCTTCACGCACATC  (9)

icd_F   ATGGAAAGTCAAAGCTAGTGTGCCTGGCACA  (9)
icd_R   GGACGCAGCAGGATTCTGTT   (9)

mdh_F1  AGCGCGTCTTGTTCATACGC  (9)
mdh_R1  CAGGTTCAGAAGCTCTCTCTCTGT  (9)
purA_F1  TCGGTAACGGTTGTGGTGTGCTG  (9)
purA_R   CATACGGTAAGGCACGGGACA  (9)

recA_F   CGCATTGCTTACACACCTGACCA  (9)
recA_R   TCGTCAAAATCTACGGGACCAGA  (9)

VF determination
afa1   GCTGGGGCAGCAAAACTGATAATCTC  (10)
afa2   CATCAAGGCTGTGTTGTCGTCGCCG  (10)
fimH_F   TGCAGAGAAGGATTGAGGCTCTTAC  (11)
fimH_R   GCGAGTCACCTGCCTCGGTGA  (11)
sfa1   CTCGAGAGAAGGATTGAGGCTCTTAC  (10)
sfa2   CCGAGAGAAGGATTGAGGCTCTTAC  (10)
pap1   GACGGCTGTACTGAGCCTGCTG  (10)
pap2   ATATCCTTTCTGAGGATTGCAATA  (10)
papG2_F   GGAGATGAGGCGGCCCTTTGAT  (12)
papG2_R   CCGGCCCCCAAGTAACCTCG  (12)
iha_F   CTGGGCAGCAAACTGATAATCTC  (13)
iha_R   TCCTTAAGCTCCCGCGTGA  (13)
Aer1   TACCGGATTGTCATAAGTTGCAGAAGG  (14)
Aer2   AATATTGCTTCTCCAGTGCTCAGAAGG  (14)
AerJ_F   GGCTGGACATCATGAGGCTGCTG  (15)
AerJ_R   CGTTCGGAACAGGGTGAGGAGG  (15)
fyuA_F   TGATTAAAGCGGCACGAGGAA  (11)
fyuA_R   CAGCGAGAGAAGGATTGAGGCTCTTAC  (16)

iroN_F   AAGTCAAAGGCGGTGGTGGTGGCAGG  (17)
iroN_R   GACGCCCAGCATAAGGCAGAGG  (17)
cnf1   AAGTCAAAGGCGGTGGTGTCCTGCTG  (14)
cnf2   CATTCAGAGTGCTGCTCAGCTATTATT  (14)
sat_F   GTTGTCTGCTGCTGCTGCTGCTG  (18)
sat_R   AATAGATTGCTCCAGAGG  (18)
hly_F   AACAGGAGACGGCAGACTGTTGGTGCTG  (14)
hly_R   ACCATATAAGCGGCATCCTCCAGTCA  (14)
ERIC-PCR: enterobacterial repetitive intergenic consensus polymerase chain reaction, ESBL: extended-spectrum β-lactamase, VF: virulence factor, MLST: multilocus sequence typing
| Isolate Number | ST    | phylogenetic group | biofilm formation (LB) | biofilm formation (BHI) | possession of ESBL gene |
|---------------|-------|--------------------|------------------------|-------------------------|-------------------------|
| 1             | ST457 | F                  | -                      | -                       | -                       |
| 2             | ST569 | B2                 | -                      | -                       | -                       |
| 3             | ST362 | E                  | -                      | -                       | -                       |
| 4             | ST1193| B2                 | +                      | -                       | -                       |
| 5             | ST73  | B2                 | +                      | -                       | -                       |
| 6             | ST131 | B2                 | -                      | +                       | CTX M-9                 |
| 7             | ST95  | B2                 | +                      | -                       | -                       |
| 8             | ST83  | B2                 | -                      | -                       | -                       |
| 9             | ST95  | B2                 | -                      | -                       | -                       |
| 10            | ST131 | B2                 | +                      | -                       | CTX M-1                 |
| 11            | ST73  | B2                 | +                      | -                       | -                       |
| 12            | ST357 | B2                 | -                      | -                       | -                       |
| 13            | ST95  | B2                 | +                      | -                       | -                       |
| 14            | ST95  | B2                 | +                      | -                       | -                       |
| 15            | ST131 | B2                 | +                      | +                       | -                       |
| 16            | ST95  | B2                 | -                      | -                       | -                       |
| 17            | ST73  | B2                 | -                      | -                       | -                       |
| 18            | ST1193| B2                 | -                      | -                       | CTX M-9                 |
| 19            | ST73  | B2                 | -                      | -                       | -                       |
| 20            | ST131 | B2                 | -                      | -                       | -                       |
| 21            | ST131 | B2                 | -                      | -                       | -                       |
| 22            | ST73  | B2                 | +                      | -                       | -                       |
| 23            | ST131 | B2                 | -                      | +                       | -                       |
| 24            | ST6769| E                  | -                      | -                       | -                       |
| 25            | ST95  | B2                 | +                      | +                       | -                       |
| 26            | ST131 | B2                 | -                      | -                       | -                       |
| 27            | new ST| B2                 | +                      | -                       | -                       |
| 28            | ST1193| B2                 | -                      | -                       | -                       |
| 29            | ST131 | B2                 | -                      | -                       | -                       |
| 30            | ST131 | B2                 | +                      | +                       | -                       |
| 31            | ST95  | B2                 | +                      | -                       | -                       |
| 32            | ST131 | B2                 | -                      | -                       | CTX M-1                 |
| 33            | ST95  | B2                 | +                      | -                       | -                       |
| 34            | ST70  | B2                 | -                      | +                       | -                       |
| 35            | ST131 | B2                 | +                      | +                       | CTX M-9                 |
| 36            | ST131 | B2                 | -                      | +                       | CTX M-9                 |
| 37            | ST131 | B2                 | -                      | -                       | -                       |
| 38            | ST131 | B2                 | +                      | +                       | CTX M-9                 |
|   | ST  | Type | ESBL | CTX M |
|---|-----|------|------|-------|
| 39| ST405 | E    | -    | +     | CTX M-1 |
| 40| ST95  | B2   | +    | +     | -      |
| 41| ST131 | B2   | +    | +     | CTX M-9 |
| 42| ST131 | B2   | +    | +     | CTX M-9 |
| 43| ST95  | B2   | +    | +     | -      |
| 44| ST69  | E    | -    | -     | -      |
| 45| ST73  | B2   | +    | +     | -      |
| 46| ST62  | F    | -    | -     | -      |
| 47| ST73  | B2   | -    | +     | -      |
| 48| ST131 | B2   | -    | -     | -      |
| 49| ST131 | B2   | -    | +     | CTX M-9 |

ST, sequence type, ESBL, extended-spectrum β-lactamase, BHI, brain heart infusion
Table S3: Distribution of STs, phylogenetic group, biofilm formation ability, and possession of ESBL gene of each genetically discordant *E. coli* strain

| Isolate Number | ST     | phylogenetic group | biofilm formation (LB) | biofilm formation (BHI) | possession of ESBL gene |
|----------------|--------|--------------------|-------------------------|--------------------------|--------------------------|
| 50             | ST357  | B2                 | -                       | -                        | -                        |
| 51             | ST88   | A                  | -                       | +                        | -                        |
| 52             | ST95   | B2                 | +                       | +                        | -                        |
| 53             | new ST | E                  | -                       | -                        | -                        |
| 54             | ST4623 | B1                 | -                       | -                        | -                        |
| 55             | ST38   | E                  | +                       | -                        | CTX M-9                  |
| 56             | ST453  | B1                 | -                       | -                        | -                        |
| 57             | new ST | B1                 | -                       | -                        | -                        |
| 58             | new ST | B2                 | -                       | -                        | -                        |
| 59             | ST1611 | B1                 | -                       | +                        | -                        |
| 60             | ST1193 | B2                 | -                       | -                        | -                        |
| 61             | ST648  | F                  | -                       | -                        | -                        |
| 62             | ST538  | B2                 | +                       | +                        | CTX M-9                  |
| 63             | ST117  | F                  | -                       | +                        | -                        |
| 64             | ST131  | B2                 | -                       | +                        | -                        |
| 65             | ST162  | B1                 | -                       | -                        | -                        |
| 66             | ST95   | B2                 | +                       | -                        | -                        |
| 67             | ST131  | B2                 | -                       | -                        | -                        |
| 68             | ST131  | B2                 | +                       | +                        | -                        |
| 69             | ST297  | B1                 | -                       | -                        | -                        |
| 70             | ST95   | B2                 | +                       | +                        | -                        |

ST, sequence type, ESBL, extended-spectrum \(\beta\)-lactamase, BHI, brain heart infusion
Table S4: Distribution of 20 virulence factor genes and VF scores of each genetically identical *E. coli* strain

| Isolate Number | afaB/C | iucD | CNF1 | sfaD/E | papC | fyuA | cvaC | fimH | iutA | iheA | iha | ompT | KpsMT2 | papG2 | hlyA | TcpC | usp | iraN | sat | traT | VF score |
|----------------|--------|------|------|--------|------|------|------|------|------|------|-----|------|--------|-------|------|------|-----|------|-----|------|----------|
| 1              | -      | +    | -    | -      | +    | -    | -    | +    | -    | +    | -   | -    | -      | -     | -    | -    | -   | +    |    |     | 6        |
| 2              | -      | -    | -    | -      | -    | +    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | -   | -    |    |     | 5        |
| 3              | -      | +    | -    | -      | -    | +    | -    | -    | +    | -    | -   | +    | -      | -     | -    | -    | +   | +    |    |     | 6        |
| 4              | -      | +    | -    | -      | -    | +    | -    | -    | +    | -    | -   | +    | -      | -     | -    | -    | +   | -    |    |     | 8        |
| 5              | -      | +    | +    | +      | +    | +    | -    | +    | -    | -    | +   | +    | +      | +     | +    | +    | +   | +    |    |     | 15       |
| 6              | -      | +    | -    | -      | -    | +    | -    | -    | +    | -    | -   | -    | +      | -     | -    | -    | +   | -    |    |     | 8        |
| 7              | -      | -    | -    | -      | +    | -    | -    | +    | -    | -    | +   | -    | +      | -     | -    | -    | -   | -    |    |     | 8        |
| 8              | -      | -    | +    | +      | +    | +    | -    | +    | -    | -    | -   | +    | +      | +     | +    | +    | +   | +    |    |     | 8        |
| 9              | -      | -    | -    | -      | +    | -    | -    | +    | -    | -    | +   | -    | +      | -     | -    | -    | -   | -    |    |     | 12       |
| 10             | -      | +    | +    | -      | -    | +    | -    | +    | -    | -    | +   | -    | +      | -     | -    | -    | -   | +    |    |     | 12       |
| 11             | -      | +    | +    | +      | +    | -    | +    | +    | -    | +    | +   | -    | +      | +     | +    | +    | +   | +    |    |     | 16       |
| 12             | -      | -    | -    | -      | +    | -    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | -   | +    |    |     | 6        |
| 13             | -      | -    | +    | +      | +    | -    | -    | +    | -    | -    | +   | -    | +      | +     | +    | +    | +   | -    |    |     | 6        |
| 14             | -      | -    | -    | -      | +    | -    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | -   | -    |    |     | 11       |
| 15             | -      | +    | -    | -      | -    | +    | -    | +    | -    | -    | -   | +    | -      | -     | -    | -    | +   | +    |    |     | 8        |
| 16             | -      | -    | +    | +      | +    | -    | -    | -    | -    | -    | -   | +    | +      | -     | -    | -    | -   | +    |    |     | 8        |
| 17             | -      | +    | +    | -      | +    | -    | -    | +    | -    | -    | +   | +    | +      | +     | +    | +    | +   | -    |    |     | 14       |
| 18             | -      | +    | +    | -      | -    | +    | -    | +    | -    | -    | +   | +    | +      | +     | +    | +    | +   | -    |    |     | 8        |
| 19             | -      | -    | -    | -      | -    | +    | -    | -    | +    | -    | -   | -    | +      | -     | -    | -    | -   | -    |    |     | 5        |
| 20             | -      | +    | -    | -      | -    | +    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | +   | +    |    |     | 9        |
| 21             | -      | +    | -    | -      | -    | +    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | +   | +    |    |     | 8        |
| 22             | -      | +    | +    | +      | +    | +    | -    | +    | -    | -    | +   | +    | +      | +     | +    | +    | +   | +    |    |     | 16       |
| 23             | +      | +    | -    | -      | -    | +    | -    | +    | -    | -    | +   | +    | +      | +     | +    | +    | +   | +    |    |     | 10       |
| 24             | -      | +    | -    | -      | -    | -    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | -   | -    |    |     | 5        |
| 25             | -      | -    | -    | +      | +    | +    | -    | -    | +    | -    | +   | -    | -      | -     | -    | -    | +   | +    |    |     | 10       |
| 26             | -      | +    | -    | -      | -    | +    | -    | +    | -    | -    | +   | -    | -      | -     | -    | -    | +   | -    |    |     | 8        |
|   | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|   | -  | -  | -  | -  | -  | +  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | +  | -  | +  | -  | +  | 7  |
| 28| -  | +  | -  | -  | -  | +  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | +  | -  | +  | -  | +  | 8  |
| 29| -  | +  | -  | -  | -  | +  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | +  | -  | +  | -  | +  | 8  |
| 30| -  | -  | -  | -  | -  | +  | -  | -  | -  | +  | -  | -  | -  | -  | -  | -  | +  | -  | -  | -  | +  | 5  |
| 31| -  | -  | -  | -  | +  | +  | -  | -  | -  | +  | -  | +  | -  | +  | -  | -  | +  | -  | +  | -  | +  | 8  |
| 32| +  | +  | -  | -  | -  | +  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | -  | -  | -  | +  | +  | 10 |
| 33| -  | -  | -  | -  | +  | +  | -  | +  | -  | -  | +  | -  | +  | -  | -  | -  | +  | -  | -  | -  | +  | 7  |
| 34| -  | -  | -  | -  | -  | +  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | +  | 3  |
| 35| -  | +  | -  | -  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | -  | -  | +  | -  | -  | +  | +  | 9  |
| 36| -  | +  | -  | -  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | -  | +  | -  | -  | +  | +  | +  | 9  |
| 37| +  | +  | -  | -  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | -  | -  | -  | -  | +  | +  | +  | 10 |
| 38| -  | +  | -  | -  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | -  | -  | -  | -  | +  | +  | +  | 8  |
| 39| -  | +  | -  | -  | -  | +  | -  | +  | -  | -  | +  | -  | -  | -  | -  | -  | -  | -  | -  | +  | +  | 6  |
| 40| -  | -  | +  | +  | +  | +  | -  | +  | -  | -  | -  | +  | -  | -  | +  | -  | +  | +  | -  | +  | 11 |
| 41| -  | +  | -  | -  | +  | +  | -  | +  | -  | -  | -  | +  | -  | -  | -  | +  | +  | -  | +  | +  | 10 |
| 42| -  | +  | -  | -  | -  | +  | -  | +  | -  | -  | -  | +  | -  | -  | -  | +  | +  | -  | +  | +  | 9  |
| 43| -  | -  | +  | -  | +  | +  | -  | -  | -  | -  | -  | -  | +  | -  | -  | -  | -  | -  | +  | +  | -  | 7  |
| 44| -  | +  | -  | -  | -  | +  | +  | +  | -  | -  | +  | -  | -  | -  | -  | +  | -  | -  | +  | -  | 9  |
| 45| -  | -  | +  | +  | +  | +  | -  | -  | -  | -  | -  | -  | +  | +  | -  | -  | +  | +  | -  | -  | 10 |
| 46| -  | +  | -  | -  | +  | +  | -  | +  | -  | -  | -  | -  | +  | -  | -  | -  | -  | -  | +  | +  | 10 |
| 47| -  | +  | -  | -  | +  | +  | -  | +  | -  | -  | -  | +  | +  | +  | +  | +  | -  | +  | +  | +  | 12 |
| 48| -  | +  | -  | -  | -  | +  | +  | -  | -  | -  | -  | -  | +  | -  | -  | +  | -  | -  | +  | +  | 9  |
| 49| -  | -  | -  | -  | -  | +  | -  | +  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | +  | -  | 4  |
Table S5: Distribution of 20 virulence factor genes and VF scores of each genetically discordant *E. coli* strain

| Isolate Number | afaB/C | iucD | CNF1 | sfaD/E | papC | fyuA | cvaC | fimH | iutA | iheA | ompT | KpsMT2 | papG2 | hlyA | TcpC | usp | iroN | sat | traT | VF score |
|----------------|--------|------|------|--------|------|------|------|------|------|------|------|--------|--------|------|------|-----|-----|-----|------|---------|
| 50             | -      | -    | -    | -      | +    | -    | +    | -    | +    | -    | -    | +      | -      | -    | -    | +   | -   | -   | +    | 6      |
| 51             | -      | +    | -    | -      | -    | +    | +    | +    | +    | -    | -    | -      | -      | -    | -    | -   | +   | -   | +    | 8      |
| 52             | -      | -    | -    | -      | +    | +    | -    | -    | -    | -    | -    | +      | +      | -    | -    | +   | -   | -   | +    | 7      |
| 53             | -      | -    | -    | -      | -    | -    | +    | -    | -    | -    | -    | -      | +      | -    | -    | -   | -   | -   | -    | 2      |
| 54             | -      | -    | -    | -      | -    | -    | +    | -    | -    | -    | -    | -      | -      | -    | -    | -   | -   | -   | -    | 1      |
| 55             | +      | -    | -    | -      | -    | -    | +    | -    | -    | -    | -    | -      | +      | -    | -    | -   | -   | -   | -    | 4      |
| 56             | -      | -    | -    | -      | -    | +    | -    | -    | -    | -    | -    | -      | +      | -    | -    | -   | -   | -   | -    | 5      |
| 57             | -      | -    | -    | -      | -    | -    | -    | -    | -    | -    | -    | -      | -      | -    | -    | -   | -   | -   | -    | 2      |
| 58             | -      | -    | -    | -      | -    | -    | +    | -    | -    | -    | -    | -      | -      | -    | -    | -   | -   | -   | -    | 1      |
| 59             | +      | -    | -    | -      | -    | -    | +    | -    | -    | -    | -    | -      | -      | -    | -    | -   | -   | -   | -    | 1      |
| 60             | +      | -    | -    | -      | -    | +    | +    | -    | +    | -    | -    | +      | -      | -    | -    | +   | -   | -   | +    | 8      |
| 61             | -      | +    | -    | -      | -    | -    | +    | +    | +    | -    | -    | +      | +      | -    | -    | -   | -   | -   | +    | 8      |
| 62             | -      | -    | -    | -      | -    | +    | -    | +    | -    | -    | -    | -      | -      | +    | -    | -   | -   | -   | -    | 4      |
| 63             | -      | +    | -    | -      | -    | -    | +    | +    | +    | -    | -    | -      | +      | -    | -    | -   | -   | -   | +    | 7      |
| 64             | +      | -    | -    | -      | -    | -    | +    | -    | +    | -    | -    | -      | -      | +    | -    | +   | +   | +   | +    | 9      |
| 65             | -      | +    | -    | -      | -    | +    | -    | +    | +    | -    | -    | -      | -      | -    | -    | -   | -   | -   | +    | 7      |
| 66             | -      | -    | -    | -      | +    | +    | -    | -    | -    | -    | -    | -      | +      | -    | -    | +   | -   | -   | +    | 8      |
| 67             | +      | -    | -    | -      | +    | +    | -    | +    | +    | -    | -    | -      | -      | +    | -    | +   | -   | -   | +    | 10     |
| 68             | +      | -    | -    | -      | +    | +    | -    | +    | +    | -    | -    | -      | -      | -    | -    | +   | +   | +   | +    | 9      |
| 69             | -      | -    | -    | -      | -    | +    | -    | -    | -    | -    | -    | -      | -      | -    | -    | -   | -   | -   | -    | 1      |
| 70             | -      | +    | -    | -      | +    | +    | -    | -    | -    | -    | -    | -      | +      | +    | -    | +   | +   | +   | -    | 8      |

VF, virulence factor
References

1. Versalovic J, Koeuth T, Lupski JR. 1991. Distribution of repetitive DNA sequences in
eubacteria and application to fingerprinting of bacterial genomes. Nucleic Acids Res
19:6823-31.

2. Shibata N, Kurokawa H, Doi Y, Yagi T, Yamane K, Wachino J, Suzuki S, Kimura K,
Ishikawa S, Kato H, Ozawa Y, Shibayama K, Kai K, Konda T, Arakawa Y. 2006. PCR
classification of CTX-M-type beta-lactamase genes identified in clinically isolated
gram-negative bacilli in Japan. Antimicrob Agents Chemother 50:791-5.

3. Clermont O, Christenson JK, Denamur E, Gordon DM. 2013. The Clermont Escherichia
coli phylo-typing method revisited: improvement of specificity and detection of new
phylo-groups. Environ Microbiol Rep 5:58-65.

4. Clermont O, Bonacorsi S, Bingen E. 2000. Rapid and simple determination of the
Escherichia coli phylogenetic group. Appl Environ Microbiol 66:4555-8.

5. Clermont O, Bonacorsi S, Bingen E. 2004. Characterization of an anonymous molecular
marker strongly linked to Escherichia coli strains causing neonatal meningitis. J Clin
Microbiol 42:1770-2.

6. Lescat M, Clermont O, Woerther PL, Glodt J, Dion S, Skurnik D, Djossou F, Dupont C,
Perroz G, Picard B, Catzfis F, Andremont A, Denamur E. 2013. Commensal
Escherichia coli strains in Guiana reveal a high genetic diversity with host-dependant
population structure. Environ Microbiol Rep 5:49-57.

7. Clermont O, Lescat M, O'Brien CL, Gordon DM, Tenaillon O, Denamur E. 2008.
Evidence for a human-specific Escherichia coli clone. Environ Microbiol 10:1000-6.

8. Doumith M, Day M, Ciesielczuk H, Hope R, Underwood A, Reynolds R, Wain J,
Livermore DM, Woodford N. 2015. Rapid identification of major Escherichia coli
sequence types causing urinary tract and bloodstream infections. J Clin Microbiol
53:160-6.

9. Wirth T, Falush D, Lan R, Colles F, Mensa P, Wieler LH, Karch H, Reeves PR, Maiden
MC, Ochman H, Achtman M. 2006. Sex and virulence in Escherichia coli: an
evolutionary perspective. Mol Microbiol 60:1136-51.

10. Le Bouguenec C, Archambaud M, Labigne A. 1992. Rapid and specific detection of the
pap, afa, and sfa adhesin-encoding operons in uropathogenic Escherichia coli strains by
polymerase chain reaction. J Clin Microbiol 30:1189-93.

11. Johnson JR, Stell AL. 2000. Extended virulence genotypes of Escherichia coli strains
from patients with urosepsis in relation to phylogeny and host compromise. J Infect Dis
181:261-72.

12. Johnson JR, Brown JJ. 1996. A novel multiply primed polymerase chain reaction assay
for identification of variant papG genes encoding the Gal(\(\alpha 1\)-4)Gal-binding PapG adhesins of Escherichia coli. J Infect Dis 173:920-6.

13. Johnson JR, Russo TA, Tarr PI, Carlino U, Bilge SS, Vary JC, Jr., Stell AL. 2000. Molecular epidemiological and phylogenetic associations of two novel putative virulence genes, iha and intN(E. coli), among Escherichia coli isolates from patients with urosepsis. Infect Immun 68:3040-7.

14. Yamamoto S, Terai A, Yuri K, Kurazono H, Takeda Y, Yoshida O. 1995. Detection of urovirulence factors in Escherichia coli by multiplex polymerase chain reaction. FEMS Immunol Med Microbiol 12:85-90.

15. Johnson JR, Stapleton AE, Russo TA, Scheutz F, Brown JJ, Maslow JN. 1997. Characteristics and prevalence within serogroup O4 of a J96-like clonal group of uropathogenic Escherichia coli O4:H5 containing the class I and class III alleles of papG. Infect Immun 65:2153-9.

16. Schubert S, Rakin A, Karch H, Carmiel E, Heesemann J. 1998. Prevalence of the "high-pathogenicity island" of Yersinia species among Escherichia coli strains that are pathogenic to humans. Infect Immun 66:480-5.

17. Rodriguez-Siek KE, Giddings CW, Doetkott C, Johnson TJ, Fakhr MK, Nolan LK. 2005. Comparison of Escherichia coli isolates implicated in human urinary tract infection and avian colibacillosis. Microbiology (Reading) 151:2097-2110.

18. Ananias M, Yano T. 2008. Serogroups and virulence genotypes of Escherichia coli isolated from patients with sepsis. Braz J Med Biol Res 41:877-83.

19. Nakano M, Yamamoto S, Terai A, Ogawa O, Makino SI, Hayashi H, Nair GB, Kurazono H. 2001. Structural and sequence diversity of the pathogenicity island of uropathogenic Escherichia coli which encodes the USP protein. FEMS Microbiol Lett 205:71-6.

20. Huang SH, Wass C, Fu Q, Prasadarao NV, Stins M, Kim KS. 1995. Escherichia coli invasion of brain microvascular endothelial cells in vitro and in vivo: molecular cloning and characterization of invasion gene ibe10. Infect Immun 63:4470-5.

21. Johnson TJ, Wannemuehler Y, Doetkott C, Johnson SJ, Rosenberger SC, Nolan LK. 2008. Identification of minimal predictors of avian pathogenic Escherichia coli virulence for use as a rapid diagnostic tool. J Clin Microbiol 46:3987-96.

22. Cirl C, Wieser A, Yadav M, Duerr S, Schubert S, Fischer H, Stappert D, Wantia N, Rodriguez N, Wagner H, Svanborg C, Miethke T. 2008. Subversion of Toll-like receptor signaling by a unique family of bacterial Toll/interleukin-1 receptor domain-containing proteins. Nat Med 14:399-406.