

Whole-Genome Sequencing of Shiga Toxin–Producing *Escherichia coli* OX18 from a Fatal Hemolytic Uremic Syndrome Case

Appendix

Appendix Table 1. *Escherichia* strains used for phylogenetic analysis

| Isolate ID | Serotype or species | Pathotype | Phylogenetic group | Accession no. | Source | Year | Place |
|-------------|----------------------|-----------|--------------------|---------------|---------|-------|------------|
| APEC_O1 | O1:H7 | APEC* | B2 | CP000468 | Poultry | † | USA |
| 12009 | O103:H2 | STEC | B1 | AP010958 | Human | 2001 | Japan |
| 2009EL-2071 | O104:H4 | Stx-EAEC | B1 | CP003301 | Human | 2009 | Georgia |
| 11128 | O111:H8 | STEC | B1 | AP010960 | Human | 2001 | Japan |
| E2348/69 | O127:H6 | EPEC | B2 | FM180568 | Human | 1969 | UK |
| Sakai | O157:H7 | STEC | E | BA000007 | Human | 1996 | Japan |
| MG1655 | O16:H48 | Commensal | A | CP025268 | † | † | USA |
| UMN026 | O17:H18 | ExPEC | D | CU928163 | Human | 1999 | USA |
| I-151 | O174:H46 | STEC | E | SAMN02732277 | Human | 2005 | Germany |
| 11368 | O26:H11 | STEC | B1 | AP010953 | Human | 2001 | Japan |
| 042 | O44:H18 | EAEC | D | FN554766 | Human | 1983 | Peru |
| S88 | O45:H7 | ExPEC | B2 | CU928161 | Human | 1999 | France |
| 536 | O6:H31 | UPEC | B2 | CP000247 | Human | 1982 | Germany |
| IAI39 | O7:H45 | UPEC | F | CU928164 | Human | 1980s | France |
| H10407 | O78:H11 | ETEC | A | FN649414 | Human | 1973 | Bangladesh |
| LF82 | O83:H1 | AIEC | B2 | CU651637 | Human | † | France |
| ATCC35469 | <i>E. fergusonii</i> | NA | NA | CU928158 | Human | † | USA |

*AIEC, adherent invasive *E. coli*; APEC, avian pathogenic *E. coli*; EAEC, enteroaggregative *E. coli*; EPEC, enteropathogenic *E. coli*; ETEC, enterotoxigenic *E. coli*; ExPEC, extraintestinal pathogenic *E. coli*; NA, not applicable; STEC, Shiga toxin-producing *E. coli*; Stx-EAEC, Shiga toxin-producing enteroaggregative *E. coli*; UPEC, uropathogenic *E. coli*.

†Data not available.

Appendix Table 2. Virulence gene profile detected by VirulenceFinder 2.0 (<https://cge.cbs.dtu.dk/services/VirulenceFinder/>).

| Strain | H type | MLST | Virulence genes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|--------|--------|-----------------|-------------|------------|------------|-------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|------------|------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-----------------|-----------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|---|---|---|
| | | | <i>air</i> | <i>astA</i> | <i>cba</i> | <i>cea</i> | <i>celb</i> | <i>chuA</i> | <i>cia</i> | <i>cib</i> | <i>cma</i> | <i>cvaC</i> | <i>ehxA</i> | <i>eilA</i> | <i>epeA</i> | <i>espl</i> | <i>espP</i> | <i>gad</i> | <i>hlyA</i> | <i>hra</i> | <i>iha</i> | <i>ireA</i> | <i>iroN</i> | <i>iss</i> | <i>katP</i> | <i>lpfA</i> | <i>mchF</i> | <i>ompT</i> | <i>papA_F19</i> | <i>papA_F20</i> | <i>papC</i> | <i>sepA</i> | <i>sta1</i> | <i>stb</i> | <i>stx1</i> | <i>stx2</i> | <i>subA</i> | <i>terC</i> | <i>traT</i> | <i>usp</i> | | | |
| JNE101081 | H34 | 9185 | 1‡ | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | |
| JNE130471 | H34 | 9185 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| JNE130573 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | |
| JNE133347 | H2 | 9397 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | | |
| JNE150598 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | | |
| JNE151350 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | |
| JNE170426 | H2 | 847 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| JNE180342 | H8 | Novel* | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | | |
| JNE181771 | H19 | 205 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| JNE182474 | H19 | 205 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | |
| JNE182523 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| JNE191031 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | |
| JNE192124 | H19 | 205 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| JNE192333 | H28 | 1056 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | | |
| A140161 | H19 | 205 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| A140164 | H19 | 205 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | | |
| A140165 | H19 | 205 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| A140286 | H19 | 205 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| A140453 | H19 | Novel† | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | | |
| A140462 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | |
| A140486 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| A150011 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| A150026 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | |
| A150037 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | | |
| A150038 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | | |
| A150039 | H19 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | | |

*Same profile to ST5978, except one point mutation in *adk*.
†Same profile to ST205, except one point mutation in *gyrB*.
‡1, presence; 0, absence.