

# ENGAGE – target list; bacterial strains of *E. coli* and *Salmonella*

This document is based on communication between the ENGAGE consortium partners, and summarizes the agreed target list for *Salmonella* and *E. coli* strains that we aim at studying as part of ENGAGE.

The target list is based on the bacterial strains recorded phenotypic antimicrobial resistance (including fully sensitive strains), and ENGAGE aims at studying the resistomes of *Salmonella* spp. and non-VTEC *E. coli*. The purpose is to allow us to look at the potential EU-wide AMR transmission/spread in humans and animals based on the recorded phenotypic data, AMR genotypes and plasmid content determined by WGS, as well as phylogenies etc.

Note, this current version of the target list is created as a flexible guideline, acknowledging that some consortium partners might not be able to supply data related to all listed combinations of AMR and serotypes. Moreover, the target list might be extended or changed if/when it becomes relevant.

## Defined selection criteria:

### Overall, for both *Salmonella* and *E. coli*

---

Relevant isolates are those collected in the last 10 years where possible, but minimum 5 years, including also some from the compulsory EU monitoring programmes (food/veterinary sector). However, where possible, a few representative isolates of a specific serovar or AMR pattern older than 10 years should be included in the selection – especially earliest isolates of specific AMR you may have in the strain collection.

The serovars should be collected per host (animal reservoir)/year. This will allow for proportional sampling of the number of isolates from specific animal host to the number of total isolates in that year. For example, monophasic Typhimurium is most frequently isolated from pigs and we should proportionally sample more pig than cattle isolates from that year etc. This will be different for humans (and food?) but we will compare the data once collated and decide on the strains to include.

### Related to AMR for *Salmonella* and non-VTEC-*E.coli*:

---

Relevant *Salmonella* and *E. coli* isolates (AMR) are those that harbor resistance towards the following antimicrobials. Note, for *E. coli*, in some cases we will not have the complete AMR information.

1. Fluoroquinolones, e.g. ciprofloxacin
2. 3<sup>rd</sup> generation cephalosporins, e.g. cefotaxime, ceftazidime, ceftiofur
3. Carbapenemases, e.g. meropenem, imipenem
4. Azithromycin
5. Temocillin
6. Tigecycline
7. Colistin
8. Fully Susceptible

### **Related to *Salmonella*:**

---

The different partners have different strain sets/collections – human, food, animal (different host species) and the main focus has been defined to be on the top 10 serovars in humans.

Relevant *Salmonella* serotypes

1. S. Infantis
2. S. Kentucky
3. S. Stanley
4. S. Enteritidis
5. S. Paratyphi B java
6. S. Typhimurium
7. 4,[5],12:i:- and 4,12,i:-
8. S. Newport
9. S. Derby

### **Related to non-VTEC-*E.coli*:**

---

The selections could also be based on serotype and/or pulsotype, where available.

Different host species and clinical syndromes should be represented.

Relevant *E. coli* (strains)

1. Non-O157 (non-VTEC)
  2. APEC
-