

Environmental dissemination of antimicrobial-resistant microorganisms (ARM) by the aquatic environment (rivers, lakes) - a possible spread in the food chain by irrigation

Background:

The river ecosystems may contribute to the dissemination of ARM and introduction of clinically relevant strains to the food chain (irrigation of plant crops).

WP1: Extended-spectrum β -lactamase-producing Enterobacterales

Characteristics of extended-spectrum β -lactamase- and carbapenemase-producing Enterobacteriaceae isolates from rivers and lakes in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/23455339/>

Quinolone resistance mechanisms among extended-spectrum beta-lactamase (ESBL) producing *Escherichia coli* isolated from rivers and lakes in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/24755830/>

Complete genome sequence of ESBL-producing *Escherichia coli* Sequence Type 1193 Isolate AVS0096, recovered from river water in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/34351235/>

Dissemination of ESBL-producing *E. coli* ST131 through wastewater and environmental water in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/37659628/>

WP2: Carbapenemase-producing Enterobacterales

Environmental dissemination of carbapenemase-producing Enterobacteriaceae in rivers in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/32806462/>

WP3: *mcr*-harbouring Enterobacterales

Occurrence of the plasmid-borne *mcr-1* Colistin resistance gene in extended-spectrum- β -Lactamase-producing Enterobacteriaceae in river water and imported vegetable samples in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/26883696/>

Complete genome sequence of *Hafnia paralvei* isolate AVS0177, harboring *mcr-9* on a plasmid

<https://pubmed.ncbi.nlm.nih.gov/34989612/>

Complete genome sequence of Colistin-resistant, *mcr-10*-harboring, *Enterobacter cloacae* Isolate AVS0889, recovered from river water in Switzerland

<https://pubmed.ncbi.nlm.nih.gov/35475674/>

WP4: *fosA*-harbouring Enterobacterales

Characteristics of *fosA*-carrying plasmids in *E. coli* and *Klebsiella* spp. isolates originating from food and environmental samples

<https://pubmed.ncbi.nlm.nih.gov/33842964/>

WP5: Vancomycin-resistant Enterococci

Spread of vancomycin-resistant *Enterococcus faecium* ST133 in the aquatic environment in Switzerland
<https://pubmed.ncbi.nlm.nih.gov/34428595/>

WP6: Enterococci harbouring oxazolidinone resistance genes

Linezolid-resistant *Enterococcus faecalis* ST16 harbouring *optrA* on a Tn6674-like element isolated from surface water
<https://pubmed.ncbi.nlm.nih.gov/33705941/>

Genetic context of *optrA* and *poxA* in florfenicol-resistant Enterococci isolated from flowing surface water in Switzerland
<https://pubmed.ncbi.nlm.nih.gov/34252296/>