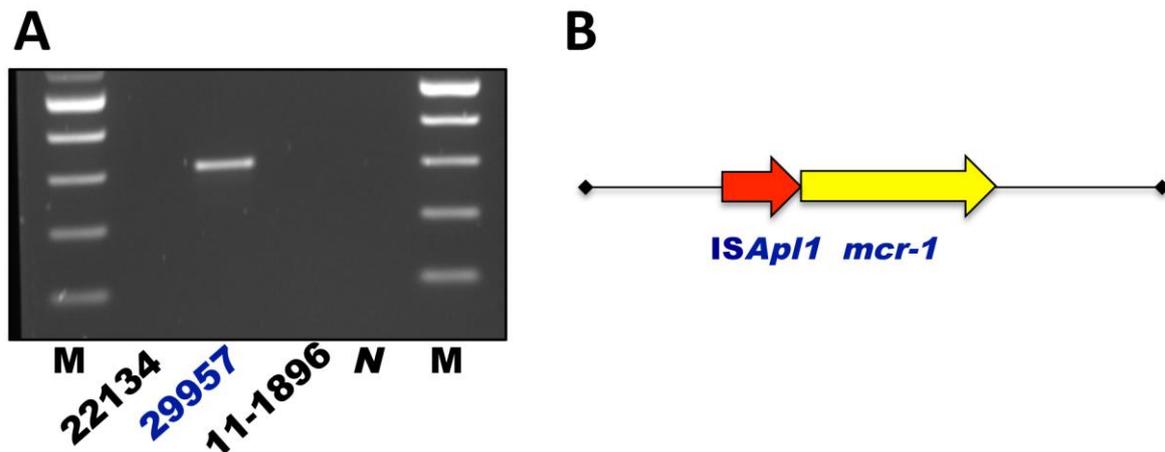


Multidrug-Resistant *Escherichia coli* in Bovine Animals, Europe

Technical Appendix



Technical Appendix Figure. PCR assay applied to 3 colistin-resistant *Escherichia coli* isolates cultured from cattle with suspected enteric or mastitic infections, France and Germany, 2004–2014. A) 1% agarose gel showing the *mcr-1* amplicon identified in *Escherichia coli* isolate 29957 (Table). Lane M, molecular weight markers. Lane N, negative control. B) Schematic representation (not to scale) of part of the physical map showing the *mcr-1* gene (at 1,649 bp) located distal to the ISAp1 insertion sequence element.

Technical Appendix Table 1. Amino acid substitutions associated with resistance to nalidixic acid and fluroquinolone compounds in 3 *Escherichia coli* isolates cultured from cattle with suspected enteric or mastitic infections, France and Germany, 2004–2010

<i>E. coli</i> isolate	NAL	CIP	MAR	GyrA	GyrB	ParC	ParE
22134	*			S83L			A192V
11–1896					H653R		
29957	*	*	*	S83L D87N		S80I P577L	

*Indicates resistance to this antimicrobial agent as determined by disk diffusion (1).

Technical Appendix Table 2. Amino acid substitutions in genes that are associated with resistance to colistin and located on the chromosome in 3 *Escherichia coli* isolates cultured from cattle with suspected enteric or mastitic infections, France and Germany, 2004–2010*

<i>E. coli</i> isolate	<i>eptB</i>	<i>phoP</i>	<i>pmrA</i>	<i>pmrB</i>
22134			S29G	D149Y
11–1896	A557T E559V	I44L	S29G G53R	D283G Y358N
29957			S29G	

*Corresponding genotypes were extracted from the whole genome sequence data.

Reference

1. Karczmarczyk M, Martins M, Quinn T, Leonard N, Fanning S. Mechanisms of fluoroquinolone resistance in *Escherichia coli* isolates from food-producing animals. *Appl Environ Microbiol.* 2011;77:7113–20. [PubMed http://dx.doi.org/10.1128/AEM.00600-11](http://dx.doi.org/10.1128/AEM.00600-11)