

Research project IZS VE 02/12

Occurrence, emergence and spread of extended-spectrum and AmpC (β)-lactamases producing *E. coli* in poultry and products thereof

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There is an increasing concern related to the use in animal production of antimicrobials considered to be critical for public health. Among the antimicrobials that have been classified by the WHO as Critically Important in Human Medicine, 3rd and 4rd generation cephalosporins are particularly relevant. Since 2000, the presence of determinants of resistance to these antimicrobials in Enterobacteriaceae, and specifically in *Escherichia coli*, isolated from animals and food has been increasingly reported. Poultry and poultry products are currently considered as an important source of cephalosporins resistant *E. coli*.

The project will be developed throughout the following tasks:

- assessment of the prevalence of *E. coli* producing extended-spectrum (beta)-lactamases (ESBL) and/or AmpC (beta)-lactamases (AmpC) in broiler and turkey flocks as well as from meat thereof;
- identification of genetic determinants responsible of resistance to these antimicrobials;
- assessment of co-resistance to other antimicrobial classes due to associated mechanisms;
- evaluation of the potential for transmission of these antimicrobial resistance (AMR) determinants from animals to meat products.