

This is provisional English translation of an excerpt from the original full report.

## Risk Assessment Report

### Zactran

(Antimicrobial-resistant Bacteria)

Food Safety Commission of Japan (FSCJ)  
September 2014

#### ABSTRACT

Zactran is an injection for cattle which contains gamithromycin, a family of antibiotic agents of macroride, as an active ingredient. Food Safety Commission of Japan (FSCJ) conducted a risk assessment on antimicrobial-resistant bacteria resulting from the use of Zactran in livestock animals according to the Assessment Guideline for the Effect of Food on Human Health Regarding Antimicrobial-Resistant Bacteria Selected by Antimicrobial Use in Food Animals (FSCJ, September 30, 2004).

Campylobacter is a bacterium which may spread through food products derived from cattle, and against which macroride antibiotic agents is chosen first for clinical treatment of human cases of infection. Therefore, FSCJ identified *Campylobacter* which acquired antimicrobial resistance as a result of the use of Zactran in livestock as the hazard to be assessed. Then FSCJ conducted the release assessment, the exposure assessment and the consequence assessment, and based on the results of these assessments, estimated the risk resulting from the use of Zactran.

In the monitoring conducted under Japanese Veterinary Antimicrobial Resistance Monitoring Program, JVARM, erythromycin resistant strains of *Campylobacter jejuni* were not identified from 1999 to 2011. Although erythromycin resistant strains of *Campylobacter coli* were identified, no increase in the rate of resistance was observed. Based on these results of the release assessment, the risk level of the development of resistant *Campylobacter* after administration of Zactran to cattle was estimated to be low.

Although human might be exposed to the relevant antimicrobial resistant bacteria through intake of foods derived from cattle, the risk level was estimated by the exposure assessment to be negligible as long as cattle-derived foods are appropriately controlled and consumed under control measures against food poisoning.

In the consequence assessment, FSCJ considered comprehensively the current status of clinical treatments of human cases of infection, and predicted that the therapeutic efficacy of macroride antimicrobial agents for human cases of *Campylobacter* infection will be possibly reduced or lost. Thus the risk level was estimated to be moderate.

Based on these assessment results, FSCJ considers that the following possibilities cannot be neglected: 1) selection of hazards as a result of the use of Zactran in cattle; 2) human exposure to the hazards through consumption of cattle-derived foods; 3) loss or reduction of the efficacy of antimicrobial treatment of human diseases. The risk for the hazard was, however, judged to be low as a result of the overall estimation of the risk.

Regarding antimicrobial-resistant bacteria, detailed scientific findings and information are not sufficiently available at this point, and an internationally accepted methodology for the risk assessment has not yet been established. Therefore, it is necessary to keep up with the latest scientific findings and information including the development of discussion in international organizations.

Regarding the veterinary medicinal product, Zactran, thorough risk management measures are necessary to ensure the prudent use of the antimicrobial. Enhancement of monitoring of antimicrobial resistant bacteria is desired. In addition, in the reevaluation of the assessed veterinary medicinal product based on the Pharmaceutical Affairs Law, a risk assessment needs to be conducted particularly on the basis of data of the post marketing occurrence of the resistant bacteria. Therefore, verification of post approval risk management, verification of results of monitoring, and collection and verification of new scientific findings and information should be performed prior to the risk assessment. It is also necessary to conduct again the assessment based on related activities of international organizations.