



SDI Review Form 1.6

Journal Name:	British Microbiology Research Journal
Manuscript Number:	2014_BMRJ_12342
Title of the Manuscript:	A cross sectional study on prevalence of antibiotic resistance and efflux pump inhibiton of isolated cultures from poultry, dairy farms and MTCC strains from reservoirs
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



SDI Review Form 1.6

PART 1: Review Comments

	Reviewer's comment The authors describe a surveillance study to monitor resistance occurrence in bacteria sampled from chickens and buffaloes. This is an important topic of general interest.	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	1.) Setup of the study is not sufficiently explained. 1.1. What were the criteria for the selection of the Type Culture Collection strains? Were these strains supposed to be controls? The selection of Type Culture Collections species does not reflect the species isolated from animals. The aim of the study was described as "role of efflux pumps in fluoroquinolone resistance". One would expect control strains with defined FQ-resistance mechanisms. There should also be control strains with known efflux-pump overexpression patterns. The study should perhaps be limited to Gram-positive bacteria and their FQ resistance mechanisms. 1.2. The introduction and discussion of the different resistance mechanisms, especially the efflux-pump families should be clarified. For example: Which pumps are found in Gram-positive and which in Gram-negative bacteria? Which pumps can be detected with the selected antibiotics and EPI? What were the criteria for the selection of the antibiotics and the EPI used in this study? 2.) The methods need to be better described. 2.1. The determination of antibiotic susceptibility is not described in sufficient detail. It is important to define the criteria for resistance as for example breakpoints listed by different institutions. 2.2Final assay concentrations of test compounds have to be given. Stock solutions of EPI for example are described on p.5 line 122 but it is not said what the final concentration in the assays were. How was per cent efflux prevalence (p. 5, line 122) calculated? 3.) Data analysis The significance of the MIC values has to be explained. It is crucial to state the actual MIC values measured and the ranges observed. What increase of MIC can be expected from efflux pump activity and what increase results from	The aim of the present study was screening of antibiotic resistance in randomly selected bacterial strains from various sources. Some were isolated and some were procured from collection centres. The selection of culture collection species were not the controls. Done Done Done Done Done, It is already mentioned in 2.4.1 sub heading that Efflux Pump Inhibitors (EPI) are compounds which do not have any antibacterial



SDI Review Form 1.6

	other resistance mechanisms (with a focus on FQ)? What effect of the selected EPI on activity of the selected antibiotics can be expected based on literature data? The authors report 2-fold increases (one exception where 4-fold was seen) as the result of EPI addition. It is important to show that this is meaningful and not just within the accuracy of the assay. In this context, the activities of the EPI alone have to be determined and reported too. 4.) The manuscript could be significantly improved if a native English speaker had a look at the text.	activity of their own but have ability to decline MIC (2 to 8 times) or reverse antibiotic resistance in synergism (Stavri et al. 2007). Piperine and Plumbagin do not have any antibacterial activity of their own but when synergistically tested with the antibiotics declined the MIC of antibiotic by 2 or 4 fold. Done
<u>Minor</u> REVISION comments	Table 3 could be simplified by omitting lines without data (i.e. NE only).	Done
<u>Optional/General</u> comments	The manuscript should be rewritten on the basis of the collected data. More detailed explanation of the setup of the study and of the methods are needed. Rigorous analysis of the results should lead to conclusions that are substantiated by the collected data.	Done