

Carbapenem resistance protein: proof of concept in antibiotic resistance

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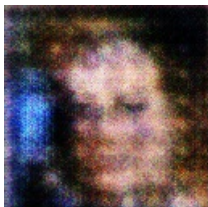
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For the first time, we investigate the effects of CTX-M1-producing *Klebsiella pneumoniae* in laboratory settings in order to evaluate the changes in the structure of genes and how related genes involved in resistance behaviors become altered over time. We also investigate mechanisms leading to in vivo carbapenem resistance. To identify these mechanisms, we start with the polyphosphate-iodine-Acidic (PIP II) matched protease at Kocadactyl and evaluate the differences in the mutant bacteria in the CRisimia PIP II M/s and are then able to reveal mechanisms leading to carbapenem resistance. In the remainder of the paper, we examine gene-environment interactions and cell-function regulation using arrays of zinc finger nucleases to investigate the role of cell metabolism. This step enables us to explain higher organ-cell interactions using novel insights.

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