

P2814 A resazurin reduction-based assay for rapid detection of polymyxin resistance in *Acinetobacter baumannii* and *Pseudomonas aeruginosa*Laurent Poirel*¹, Mathilde Lescat¹, Camille Tinguely¹, Patrice Nordmann¹¹ Dept of Microbiology, University of Fribourg, Fribourg, Switzerland

Background: Resistance to polymyxins in those species is also on the rise, highlighting the importance of obtaining rapid results of polymyxin susceptibility to optimize the antibiotic treatments. The Rapid Polymyxin NP test has been previously detected to rapidly identify colistin-resistant Enterobacteriaceae, but was not adapted to non fermenters. Here we developed another rapid test for identification of polymyxin resistance in non-fermenting bacteria. This test detects viable cells after growth in a medium containing a defined concentration of colistin.

Materials/methods: This test is based on the visual detection of the reduction of the resazurin reagent, a viability colorant, observed by its color change (blue to purple or pink). This color change results from the utilization of resazurin (7-hydroxy-3H-phenoxazin-3 one 10-oxide), also referred as the alamarBlue[®] and the PrestoBlue[®]. Its principle is based on the fact that metabolically-active cells reduce the blue resazurin to the pink product resorufin. This reduction is proportional to the number of metabolically active cells

Results: Its evaluation was performed by using 92 colistin-resistant and colistin-susceptible *Acinetobacter baumannii* and *Pseudomonas aeruginosa* isolates, i.e. 30 colistin-susceptible *A. baumannii*, 13 colistin-resistant *A. baumannii*, 39 colistin-susceptible *P. aeruginosa*, and 10 colistin-resistant *P. aeruginosa*. Sensitivity and specificity were respectively found to be 100 and 95% by comparison with the standard broth microdilution method.

Conclusions: The Rapid ResaPolymyxin *Acinetobacter* / *Pseudomonas* NP test is inexpensive, easy-to-perform, highly sensitive and specific, and can be completed in 4 hours. It could be useful in countries facing endemic spread of colistin-resistant non fermenters.