



# antibiotics



*Special Issue Reprint*

## **Molecular Characterization of Gram-Negative Bacteria: Antimicrobial Resistance, Virulence and Epidemiology**

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Multidrug-resistant (MDR), extensively drug-resistant (XDR), and pan-drug-resistant (PDR) Gram-negative bacteria constitute a huge public health problem. Among them, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, and *Acinetobacter baumannii* are the main bacteria contributing to increased rates of antimicrobial resistance. Infections caused by these bacteria can have a negative impact on the financial costs and outcomes of patient hospitalization. The increased consumption of antimicrobials and the poor implementation of infection control measures in the hospital setting are the two main causative factors for their emergence. Deep knowledge of the virulent factors that these bacteria produce could provide useful information regarding their spread.

The main problem concerning infections caused by these bacteria is that treatment options are extremely limited, as there has been a poor launch of novel antimicrobials over the last few years. The molecular epidemiology of infections caused by Gram-negative bacteria is significant as it can determine which of these few new antimicrobial agents could be effective for their treatment. This Special Issue collects manuscript submissions that expand our knowledge of antimicrobial resistance in Gram-negative bacteria.



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