ACETYLTRANSFERASE CHEA IN *ACINETOBACTER BAUMANNII* STRESS RESPONSE

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Acinetobacter baumannii is a gram-negative opportunistic pathogen, causing pneumonia, bacteremia and urinary tract infections in immunocompromised patients [1]. Due to its ability to quickly acquire antibiotic resistance, form biofilms on plastic surfaces and persist desiccation, *A. baumannii* was able to spread in the hospitals worldwide as well as in Lithuania. Rapidly increasing *A. baumannii* resistance to most antibiotics is a serious threat, thus more research is needed to understand the virulence and survival mechanisms of this bacterium and find new potential targets for antimicrobial treatment.

GNAT N-acetyltransferases are enzymes widely distributed among eukaryotic and prokaryotic organisms. These proteins usually transfer an acetyl group from acetyl-CoA to a large array of substrates, ranging from proteins and peptides to small molecules such as aminoglycosides [2]. In bacteria, GNAT acetyltransferases are associated with response to reactive oxygen species, toxins, iron acquisition and other cellular stress inducing factors. Moreover, it has been proved that some GNAT acetyltransferases transfer acetyl group to the aminocyclitol ring of a wide variety of aminoglycoside antibiotics and contribute to antibiotic resistance in bacteria [2].

In this work, we analysed the role of conservative *A. baumannii* N-acetyltransferase CheA in bacterial physiology, concentrating on the virulence and survival related traits. We have constructed an *A. baumannii ΔcheA* mutant and compared its properties with the wild type *A. baumannii* isolate.

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