EXPRESSION OF *ACINETOBACTER BAUMANNII* DNAK AND GROEL CHAPERONES IN RESPONSE TO ANTIBIOTIC.

Wisniewski, E.S[1], Felipach-Neto[1], V., Gandra, R.F.[1], Gomes, S.L.[2], Osaku, C.O.[1], Kadowaki, M.K.[1] and Simão, R.C.G.[1]

[1]Universidade Estadual do Oeste do Paraná, Cascavel, Paraná, Brazil.

[2]Instituto de Química, Universidade de São Paulo, São Paulo, Brazil.

A. baumannii is a species of Gram-negative bacteria able to colonize patients in intensive care units. We have investigated the expression of DnaK and GroEL from *A. baumannii* cells submitted to stress caused by heat shock (HS) or antibiotic. Western Blot assay was performed and showed that DnaK and GroEL levels increased twice after *A. baumannii* cells exposures to HS for 10min at 50^{o}C. A constitutively chaperones expression were verified for almost 60min at high temperature in *Acinetobacter*. Bacteria cells pretreated at 45^{o}C for 20min showed a higher ability to survive at HS temperature (50^{o}C) for 60min than cells pretreated at 37^{o}C, indicating that *Acinetobacter* is able to acquire thermotolerance. The DnaK and GroEL levels were also analyzed in cells pre-incubated or not with streptomycin (200µg/ml). Both chaperones were induced more than 4-fold after 6h of exposure to high concentration of antibiotic. Moreover, *A. baumannii* cells pretreated for 20min at 45^{o}C have been shown more ability to survive at antibiotic exposure than cells pre-treated at physiological temperatures. Our results suggest that the chaperones DnaK and GroEL could play an important role in the antibiotic resistant in *A. baumannii*.

Supported by Fundação Araucária, Fundo Paraná/SETI and CNPq.