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The hemolytic propertiesof clinical isolates of Morganella morganii

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Abstract

Morganella morganii is a gram-negative bacterium from the Enterobacteriaceae family which causes a wide range of clinical infections sometimes with fatal consequences. It is known that more than 50% of isolates of M. morganii from clinical specimens have hemolytic activity that increase their virulence. Pore-forming toxins (PFT) represent the most common group of cytotoxic proteins which contribute the delivering of the bacterial proteins into host cells, loss of nutrients and ions by eukaryotic cells, as well as the exit of bacteria from phagosome into cytosol. In this study we investigated the hemolytic activity of two M. morganii strains. It has been shown that hemolytic activity for strain of M. morganii 4 is 3 times higher than for strain of M. morganii 1. The maximum hemolytic activity is observed in LB medium but synthesis of hemolysins is higher in synthetic urine. Finally, the PCR-analysis of 5 hypothetical hemolysin genes has shown that strain M. morganii 1 does not contain homologous of α-hemolysin from E. coli that may explain the observed differences in hemolytic activity of the investigated strains.

Keywords

Bioinformatic analysis, Hemolysis, M. morganii, Opportunistic infections