ADHESIN PROTEINS IN BIOFILMS OF THE FOOD-BORNE PATHOGEN *BACILLUS CEREUS*

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One of the greatest challenges of the food industry is to reduce food poisoning caused by food-borne pathogenic bacteria. *Bacillus cereus* is one the recurrent bacterial pathogens responsible of many outbreaks. Biofilm formation and sporulation are thought as the most important reservoirs of *B. cereus*. Biofilms are bacterial communities difficult to eradicate from biotic and abiotic surfaces. They are usually composed of exopolysaccharides and proteins. In our study, we are interested in the characterization of the molecular bases leading to biofilm formation in *B. cereus* during the interaction with plants. To start this analysis we have focused on the structural components of the extracellular matrix of these biofilms. Using as a model the well-studied *B. subtilis*, we show in this work the presence in *B. cereus* of an orthologous of *tasA*. TasA forms amyloid-like fibers in the extracellular matrix of *B. subtilis*. We demonstrate that the heterologous expression of this allele in a *B. subtilis* strain lacking the entire *tasA* operon and unable to form biofilm, restores the assembly of biofilm formation. Biochemical and morphological studies of this protein let us think on a possible amyloid-like nature of this protein, which could be involved in cell-cell interaction and biofilm formation as it does in *B. subtilis*.

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