

The expression profile of secondary metabolites in biofilms of *B. amyloliquefaciens* CECT 8237 biocontrol strain

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The contribution of *Bacillus amyloliquefaciens* CECT 8237 (UMAF6639) strain to the plant protection against bacterial and fungal pathogens is mainly based on: i) the production of antimicrobial compounds, ii) the plant-growth promotion capability and iii) the induction of systemic resistance in plant host.

In previous works, we demonstrated the relevant implication of the three families of lipopeptides in the biocontrol activity and biofilm formation on melon leaves. The analysis of the genome sequence revealed features previously identified in other *Bacillus* strains, such as genes related to biofilm formation, phytostimulation and induction of systemic resistance in the host plant, and novel genomic regions non-conserved within the *Bacillus* genus, and therefore with potential genes implicated in the biocontrol activity.

Considering the relevance of biofilm formation and production of secondary metabolites in biocontrol, we analyzed the expression profile of several secondary metabolites produced by CECT 8237 in biofilm inducing conditions.

To do so, we optimized an *in situ* detection method based on MALDI-TOF analysis of secondary metabolites within the bacterial colony and in supernatants and pellicles of *B. amyloliquefaciens* biofilms. We found a major accumulation of these secondary metabolites in the core and middle area of the colony and in the spent medium compared to pellicle.

Further studies will help elucidating the real implication of these molecules in the bacterial ecology or in its mechanisms of defence, against competitors, and/or offense, against pathogens and its possible relation with the niche they occupy.

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