

## **Powerful Bacteriocins Produced by Bacillus thuringiensis Strains Isolated from Soil at Northern of Algeria**

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**Abstract :** Bacillus antimicrobial metabolites, especially those of Bacillus thuringiensis (Bt), are of great interest for research because of health risks generated by the excessive use of chemical additives as well as the propagation of resistant microbial strains, caused by the massive treatment with antibiotics. The objective of this study was the selection of Bt strains producing antimicrobial peptides (bacteriocins), and the partial purification of the most powerful bacteriocins, then the determination of their spectra of antimicrobial action. A collection of twenty one Bt strains isolated from soil at Boumerdès (northern of Algeria) was used for screening strains having an antagonistic activity against phylogenetically closed bacteria. Spectra of antagonistic activity of two selected strains was determined against other Bt strains, Gram positive and Gram negative bacterial strains of clinical origin and others from ATCC collection as well as yeasts isolated in human dermatology. Bacteriocins of these two strains were partially purified and their effect on the kinetics of growth of the most sensitive microbial strains was studied. The bacteriocinogenic strains were biochemically characterized and their sensitivity to antibiotics was studied.

**Keywords :** antimicrobial peptides, Bacillus thuringiensis, bacteriocin, partial purification

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