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Isolation, partial purification and antimicrobial activity of a bacteriocin-like compound produced by *Pseudomonas* spp. EMM-1

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Pseudomonas spp. EMM-1 is a Gram-negative bacterium isolated from contaminated soil highly competitive due to the production of one or more inhibitory substances. By testing in double-layer agar, its antimicrobial activity against diverse beneficial and pathogenic microorganism such as *Bradyrhizobium, Azotobacter, Staphylococcus, Streptococcus, Klebsiella* and *Burkholderia*, as well as phytopathogenic fungi as Pantoea and *Fusarium* has been demonstrated. Recently a crude extract was obtained by the "cold leaching methodology" and the physicochemical properties were partially characterized. It was reported a molecular mass between 3-10 kDa. The antimicrobial activity was active between -4°C and 60°C and at the pH range from 3 to 9; however, it loses its activity at 100°C. When treated with a protease from *Bacillus licheniformis* it decreases 90% the activity of the crude extract. The activity due to the presence of siderophores was discarded. From this extract it was possible to purify an inhibitory substance by thin layer chromatography which inhibits some strains of the genus *Streptococcus*. Further purification by additional methodologies needs to be done.

Biography

Catherine Cesa-Luna completed her Bachelor's degree in Clinical Chemistry in 2012 from Universidad Veracruzana, Mexico and obtained her Master's degree in Microbiologic Sciences (Medical Microbiology) in 2016 from the Benemérita Universidad Autónoma de Puebla (Puebla, México). Currently, she is pursuing her PhD in Microbiology from Benemérita Universidad Autónoma de Puebla.

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