

Biosurfactants for a Sustainable Future: Production and Applications in the Environment and Biomedicine

Chapter 11

Antiviral, Antimicrobial, and Antibiofilm Properties of Biosurfactants

Sustainable Use in Food and Pharmaceuticals

Kenia Barrantes, Juan José Araya, Luz Chacón, Rolando Procupez-Schirbu, Fernanda Lugo, Gabriel Ibarra, Víctor H. Soto,

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Summary

In an era of increasing drug resistance, the search for antimicrobial agents is crucial for the development of a sustainable future. Biosurfactants are amphiphilic molecules with recognised surface tension, and biological properties. They have become an important field of research in the last decade due to their effects against different types of microorganisms, including biofilms production. Their antimicrobial activities against bacteria, virus and fungi are relevant for applications as therapeutic and antimicrobial agents.

Biosurfactants show high biodegradability and low toxicity properties making them ideal candidates to substitute the highly toxic and nonbiodegradable traditional antimicrobial agents for medical, veterinary and agriculture purposes which can cause widespread environmental pollution and contribute to antimicrobial resistance.

In this chapter, we will describe recent studies regarding antimicrobial properties and applications of biosurfactants in pharmaceutical, therapy, and food industries.

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