

Biosurfactants with Antimicrobial Activity: Applications in Healthcare

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Abstract: Biosurfactants are a class of multifunctional microbial metabolites with increasing relevance in health-oriented biotechnological applications. According to the literature, biosurfactants have demonstrated significant antimicrobial activity against a wide range of pathogenic bacterial strains, including *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Listeria monocytogenes*, and *Enterococcus faecalis*. Microbial strains that produce biosurfactants, such as *Pseudomonas fluorescens*, *Pseudomonas putida*, *Bacillus subtilis*, *Bacillus mycoides*, *Candida bombicola*, and *Candida lipolytica*, have been extensively studied for their ability to synthesize these natural compounds, which exhibit antimicrobial effects by influencing the structural integrity of bacterial cells. Studies show that biosurfactants can also display synergistic effects when combined with plant-derived antimicrobial agents, suggesting significant potential for the development of effective natural-based treatments. Due to their biodegradability and low toxicity, these compounds can be used in preventive care, dermatological applications, and functional formulations, contributing to innovative solutions for health [1,2]. In conclusion, biosurfactants represent a promising option for the development of natural and sustainable solutions in the field of health.

Keywords: microbial surfactants; antimicrobial activity; health applications.

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