

From Surface to Infection: Biofilm Formation of Coagulase Negative Staphylococci

Freitas, C.*^(1,2), Silva, V.⁽¹⁻⁴⁾, Costa, E.⁽⁷⁾, Fontes , A.⁽⁷⁾ , Bento-Pinto, A.⁽⁷⁾, Igrejas, G.⁽²⁻⁴⁾, Poeta, P.^(1,5,6)

(1) Microbiology and Antibiotic Resistance Team (MicroART), Department of Veterinary Sciences, University of Trás-os-Montes and Alto Douro (UTAD), Vila Real, Portugal; (2) Department of Genetics and Biotechnology, University of Trás-os-Montes and Alto Douro, Vila Real, Portugal; (3) Functional Genomics and Proteomics Unit, University of Trás-os-Montes and Alto Douro (UTAD), Vila Real, Portugal; (4) LAQV-REQUIMTE, Department of Chemistry, NOVA School of Science and Technology, University NOVA of Lisbon, Caparica, Portugal; (5) Department of Veterinary Sciences, University of Trás-os-Montes and Alto Douro (UTAD), Vila Real, Portugal; (6) CECAV—Veterinary and Animal Research Centre, University of Trás-os-Montes and Alto Douro (UTAD), 5000-801 Vila Real, Portugal; (7) Hospital Centre of Trás-os-Montes and Alto Douro, Clinical Pathology Department, Vila Real, Portugal.

* catarinairfreitas@gmail.com

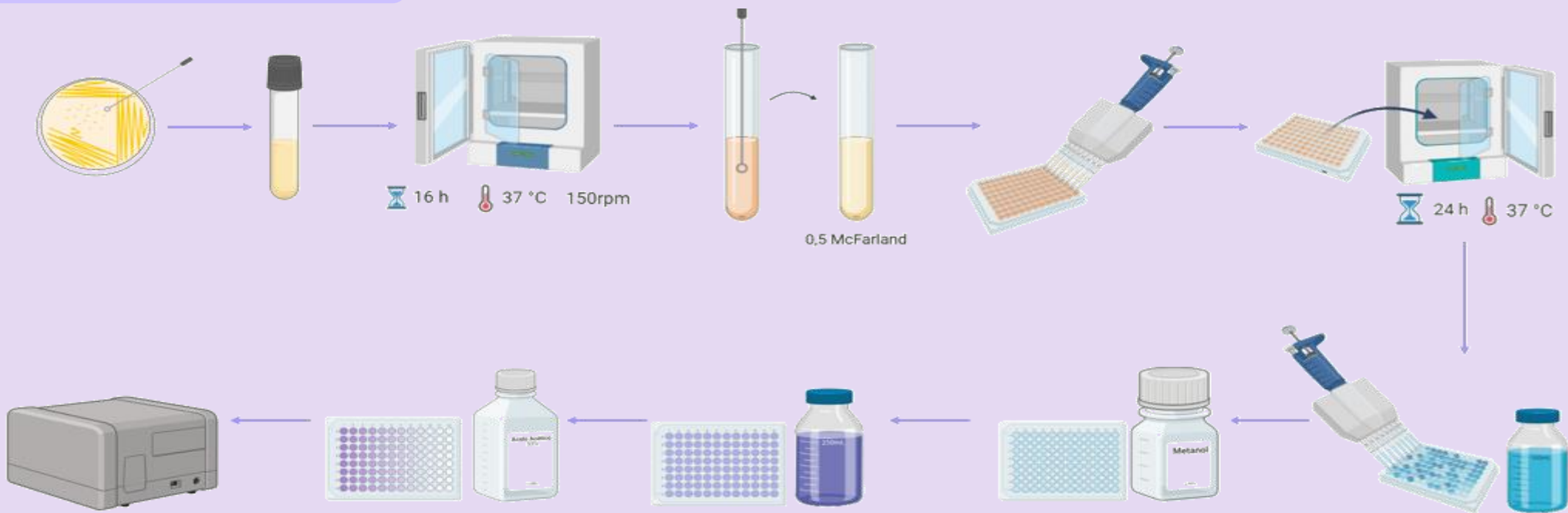
1 Introduction

Biofilm formation by Coagulase Negative Staphylococci (CoNS) represents a critical challenge in device-associated infections, often leading to treatment failures. While *Staphylococcus epidermidis* has been extensively studied, the biofilm-forming potential of other CoNS species remains underexplored.

2 Objectives

This study analysed 152 isolates belonging to 11 CoNS species obtained from individuals with infections, with the aim of assessing interspecies variability in biofilm formation and its potential clinical implications.

3 Methods



4 Results

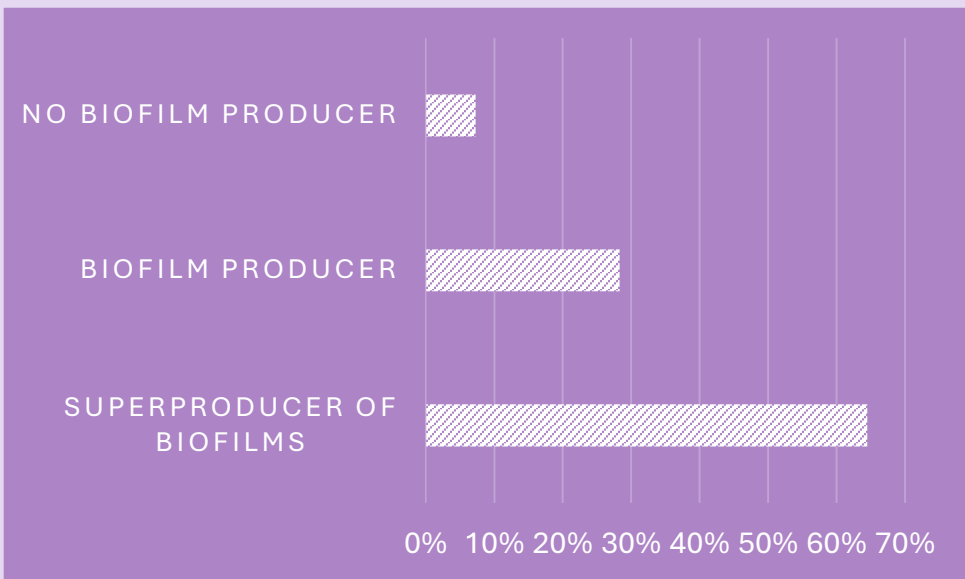


Figure 1. Biofilm production capacity.

Despite the variability observed between the isolates, **no statistically significant differences were identified** in the ability to form biofilms between the different species.

5 Conclusion

The results obtained in this study offer significant insights into the biofilm forming capacity of CoNS, which may have substantial ramifications for the formulation of novel therapeutic strategies aimed at mitigating biofilm formation and, by extension, the reduction in the prevalence of infections within hospital environments.