

Assessment of Contamination by *Staphylococcus aureus* in Infant Food



Products: Identification and Biofilm-Forming Potential

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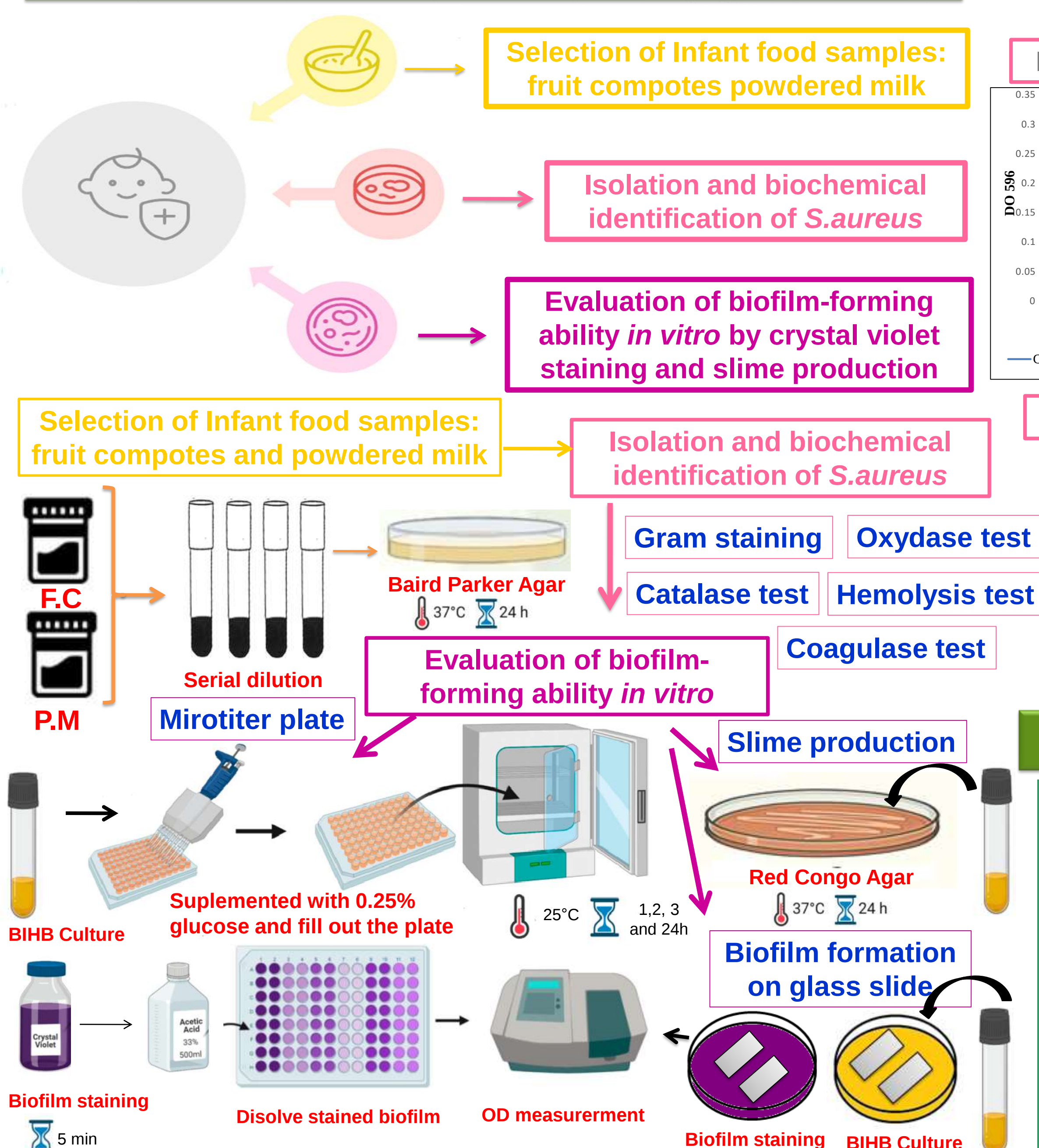
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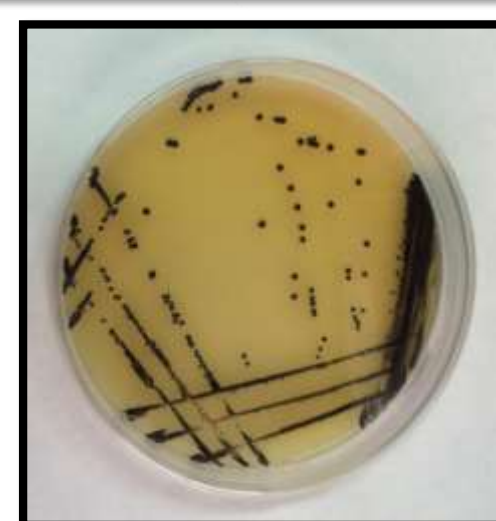
INTRODUCTION & AIM

Infant feeding represents a critical developmental stage during which exposure to pathogenic microorganisms can pose serious health risks. The WHO recommends exclusive breastfeeding for the first six months, followed by diversified feeding up to 24 months. However, infant food products such as fruit compotes and powdered milk may serve as suitable media for the growth of pathogens, particularly *Staphylococcus aureus*, a foodborne pathogen capable of producing heat-stable enterotoxins and forming biofilms that enhance its persistence in food processing environments. This study aimed to isolate and identify *S. aureus* from commercial infant foods and evaluate its biofilm-forming ability.

METHOD

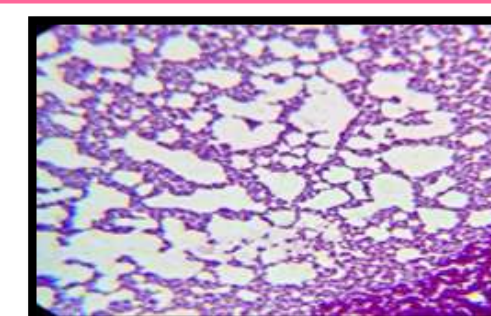


RESULTS & DISCUSSION



Biochemical identification reveals that all strains were:

Microbiological analysis revealed contamination levels of up to 14.36×10^3 CFU/ml in fruit compotes and $22.45 - 40.09 \times 10^3$ CFU/g in powdered milk.



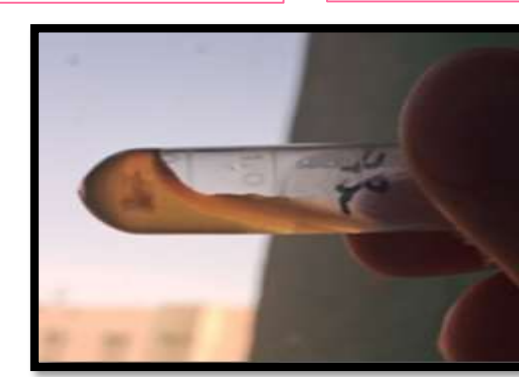
Cocci Gram +



Catalase +



Oxydase -



Coagulase +



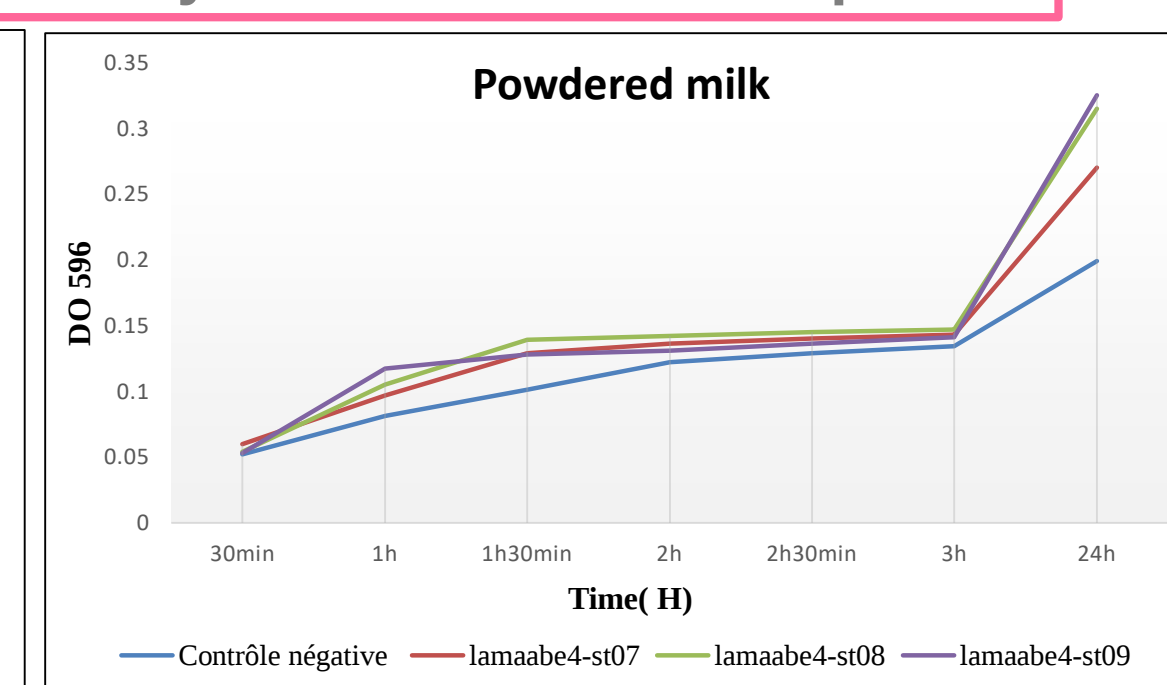
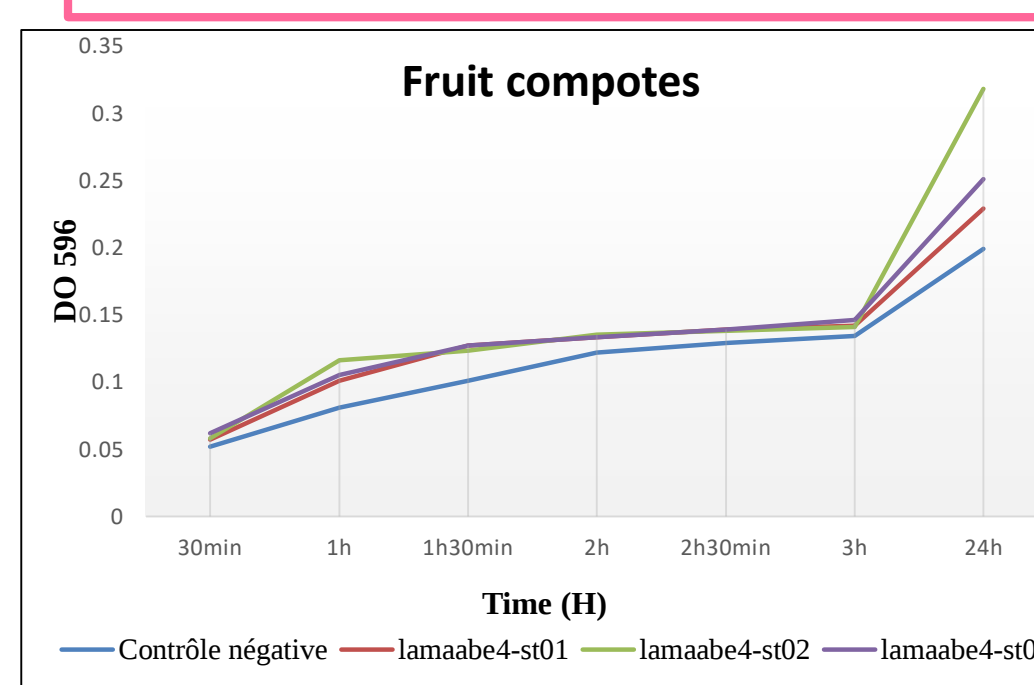
Hemolysis +

Evaluation of biofilm formation ability by slime production on Red Congo Agar:

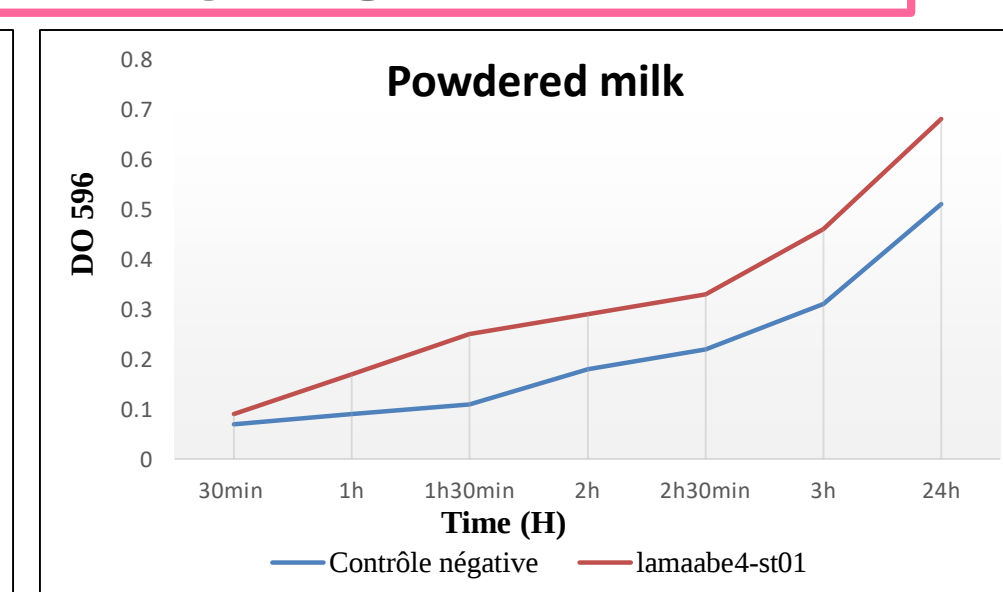
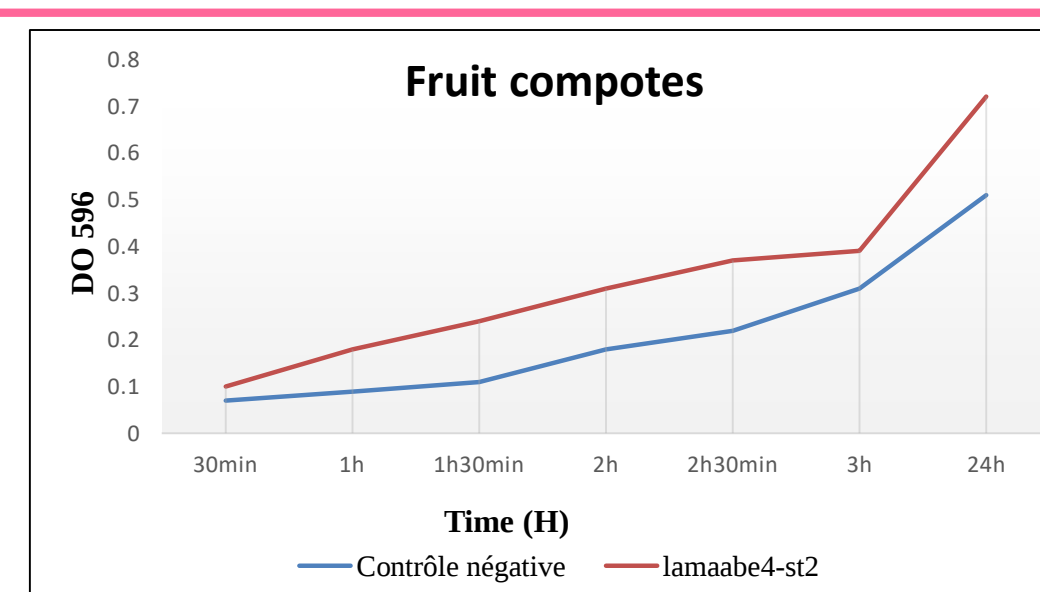


After 24h of incubation at 37°C, all tested strains showed a positive phenotype with black colonies on RCA indication exopolysaccharide production

Evaluation of biofilm formation ability on 96-well Mirotiter plate:



Evaluation of biofilm formation ability on glass slide:



CONCLUSION

These findings underscore the microbiological risk associated with infant foods and highlight the importance of stringent hygiene practices, microbial monitoring, and targeted biofilm control in food processing environments.

