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## Study of Glucose Supplementation on Antibiotic Efficacy Against *Staphylococcus aureus*

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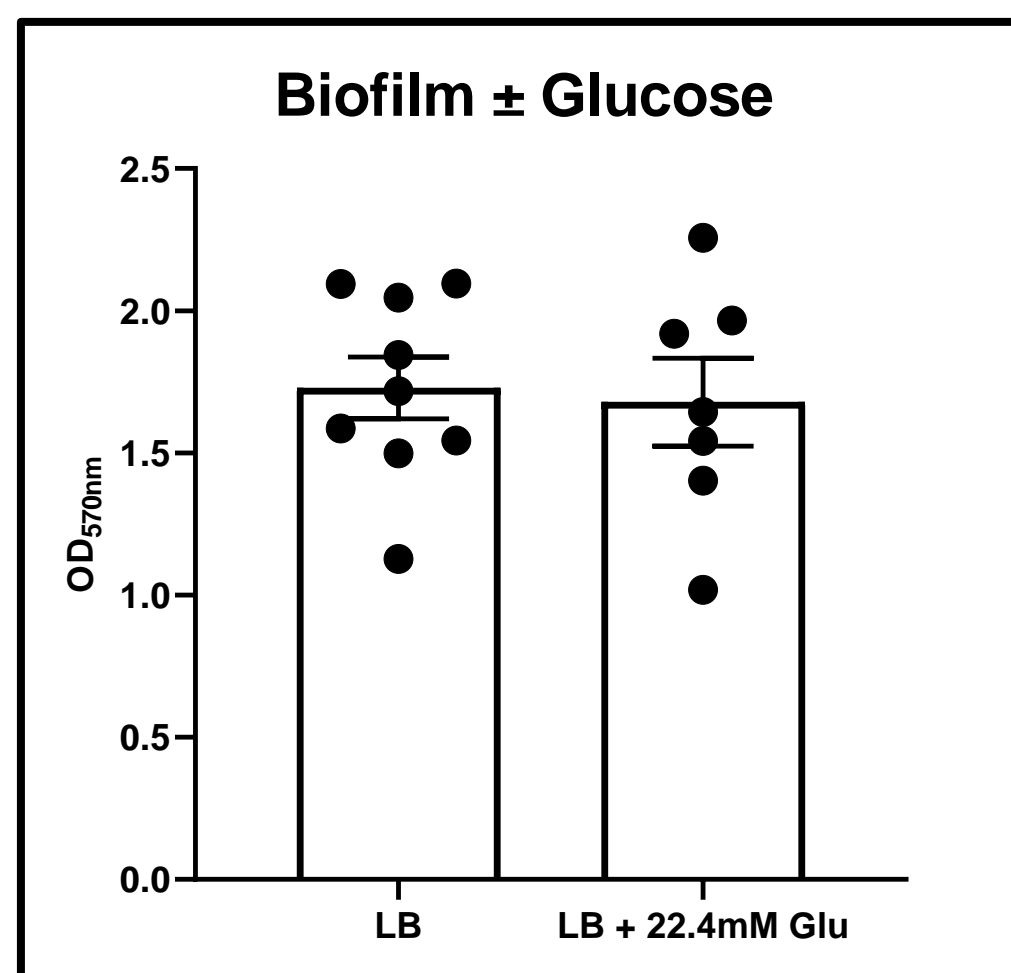
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# Study of Glucose supplementation on Antibiotic Efficacy against *Staphylococcus aureus*

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## Abstract

*Staphylococcus aureus* (*S. aureus*), is a Gram-positive, facultative anaerobic, biofilm-forming bacterium. It is the leading cause of skin and soft tissue infections (SSTIs) in the United States. The public health impact of *S. aureus* has been increased by the emergence of Methicillin-resistant *Staphylococcus aureus*. It has also shown intermediate resistance to Vancomycin, which suggests that full resistance may develop. It is known that hyperglycemia (high blood sugar) from diabetes reduces immune system function. Patients with diabetes experience a greater rate of skin and soft tissue infections. This research explores the effect of increasing glucose concentration on *S. aureus* response to multiple classes of antibiotics to determine whether hyperglycemia could contribute to treatment failure of diabetic *S. aureus* SSTIs. Our results support the claim that hyperglycemia will not contribute to treatment failure of diabetic SSTIs while working with different classes of antibiotics.



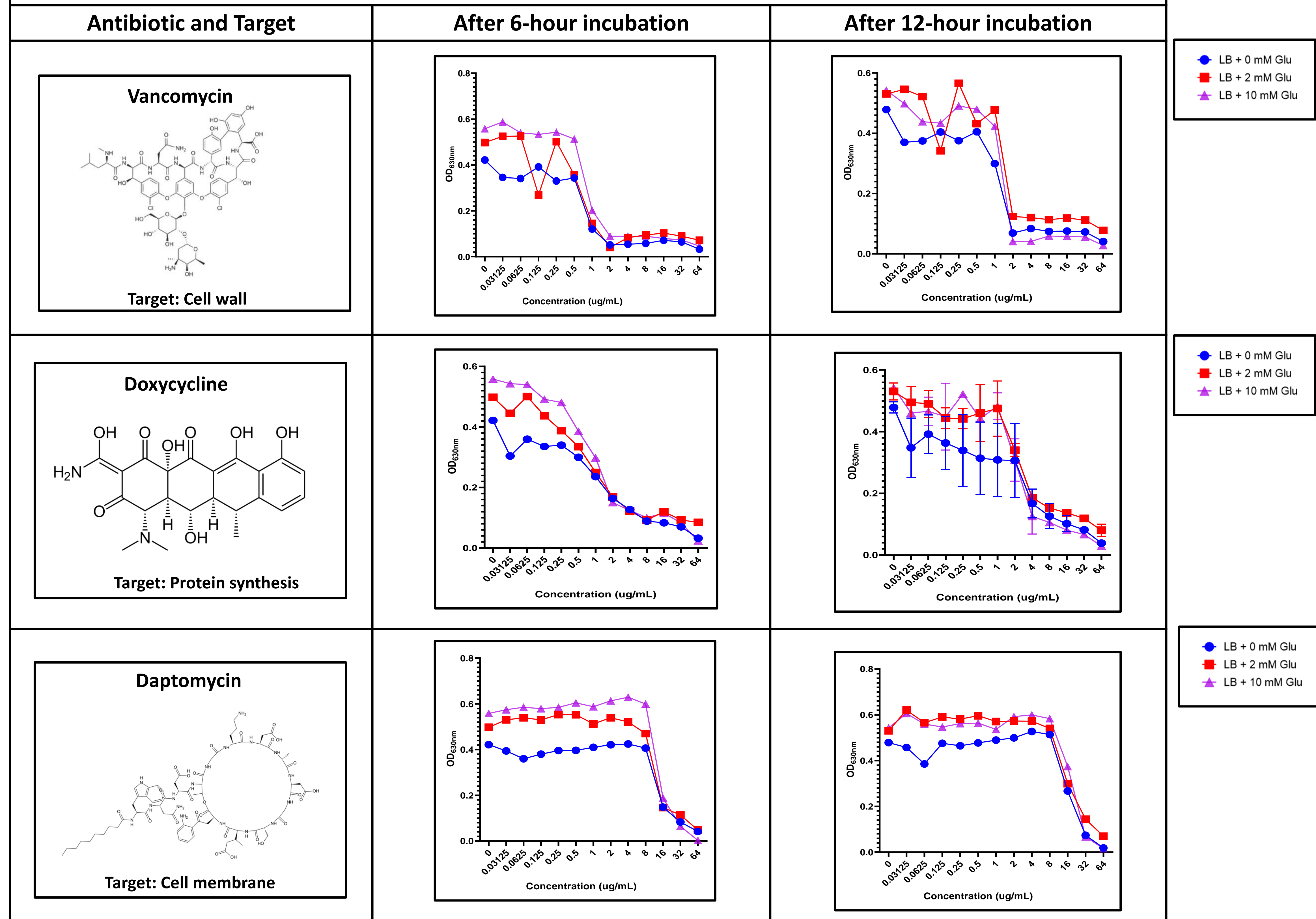
## Conclusions

- Supplementation with different concentrations of glucose did not affect *S. aureus* response when treated with antibiotics with different targeting mechanisms.
- Our results support the claim that hyperglycemia will not contribute to treatment failure of diabetic SSTIs while working with different classes of antibiotics.

## References

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## What is the effect of increasing glucose concentration on *Staphylococcus aureus* response to antibiotic treatment?



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