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Antimicrobial Effects of Fruit and Flower Anthocyanins

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Conclusion

- Our research suggest that anthocyanins are promising anti-bacterial agents
- The antimicrobial effects are highly dependent on the source of the anthocyanin-extract
- Rose-anthocyanins appear to posses the strongest anti-bacterial effects
- Gram-positive strains appear to be more sensitive compared to gram-negative strains
- Future research efforts should focus on different anthocyanin entities

Aim: Determine the antimicrobial activity of different anthocyanins

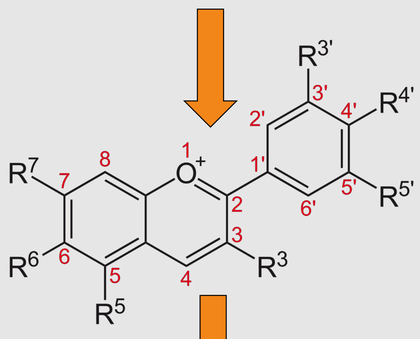
Background

- The rise of antibiotic-resistance is a worldwide issue
- Anthocyanins may possibly be the antimicrobials of the future
- Anthocyanins are water-soluble pigments found in fruits and flowers of higher plant species
- More than 600 different anthocyanins are known. All are composed of an anthocyanidin core bound to different glycosidic moieties
- The anti-bacterial efficacy of the different anthocyanin entities is currently unknown

Methods

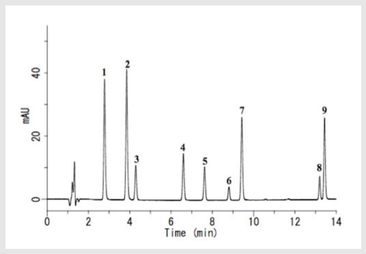
Extraction from different sources

General anthocyanin structure



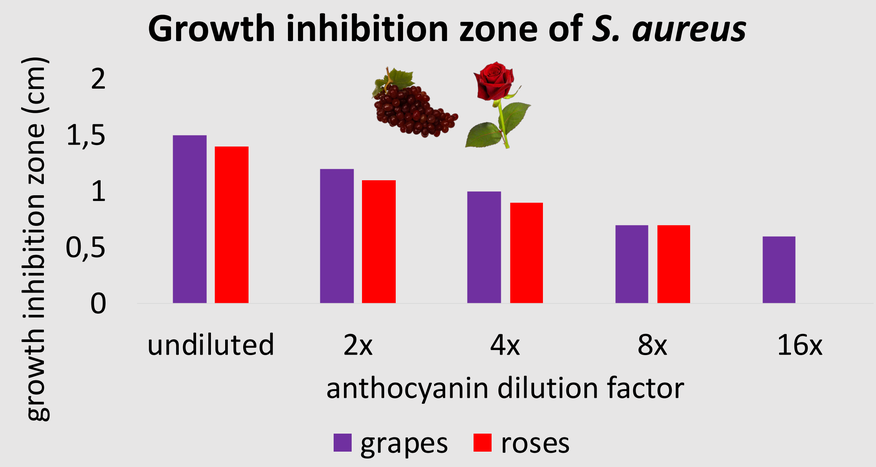
Agar well diffusion

MIC-assay

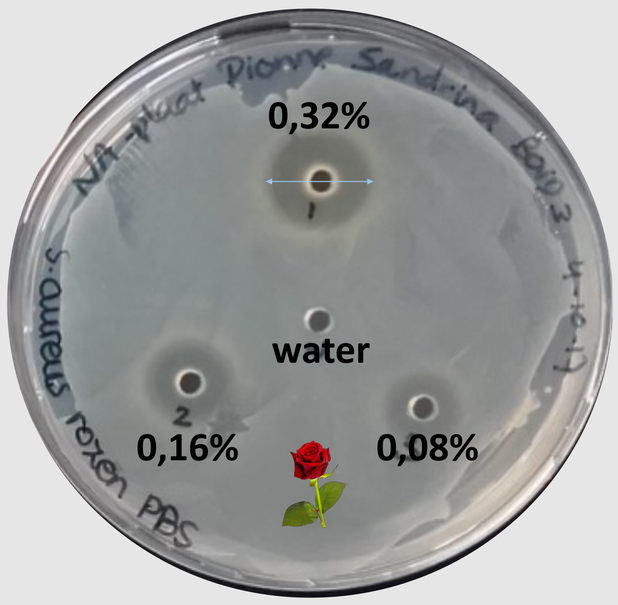


HPLC

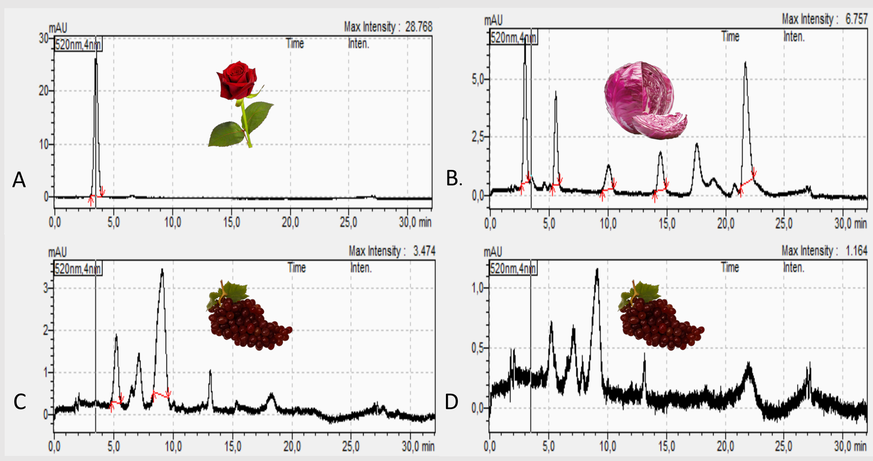
Results



Comparative antimicrobial activity of 1% grape or 0,32% rose anthocyanin extracts against *S. aureus*, using a twofold dilution series



Antimicrobial activity of rose anthocyanin extract against *S. aureus,* using the agar well diffusion test.



Comparison of HPLC separation of anthocyanins
(**A**) Rose anthocyanins, (**B**) Red cabbage anthocyanins, (**C, D**) Grape anthocyanins