

Glycoside flavour release in-mouth: the role of oral bacterial populations

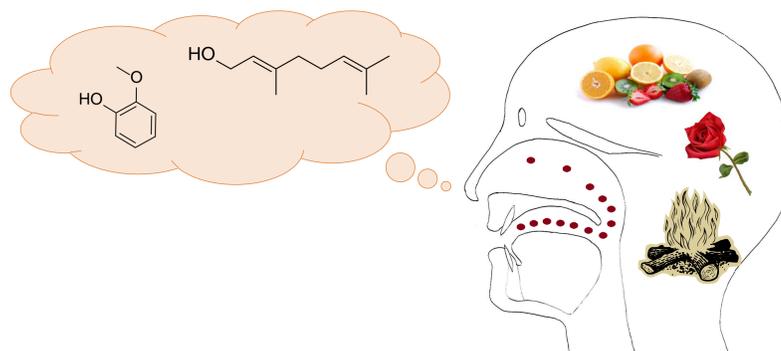
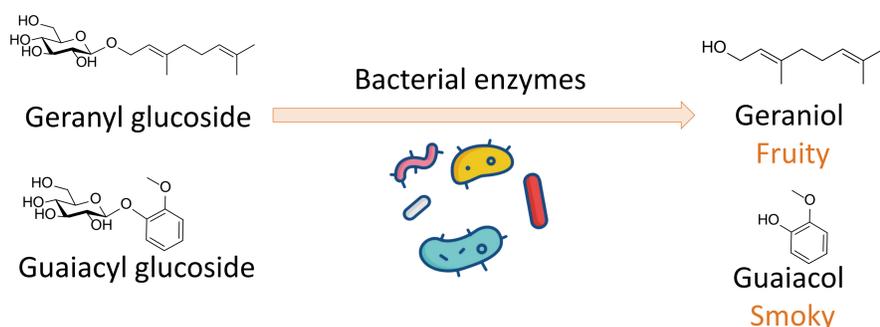


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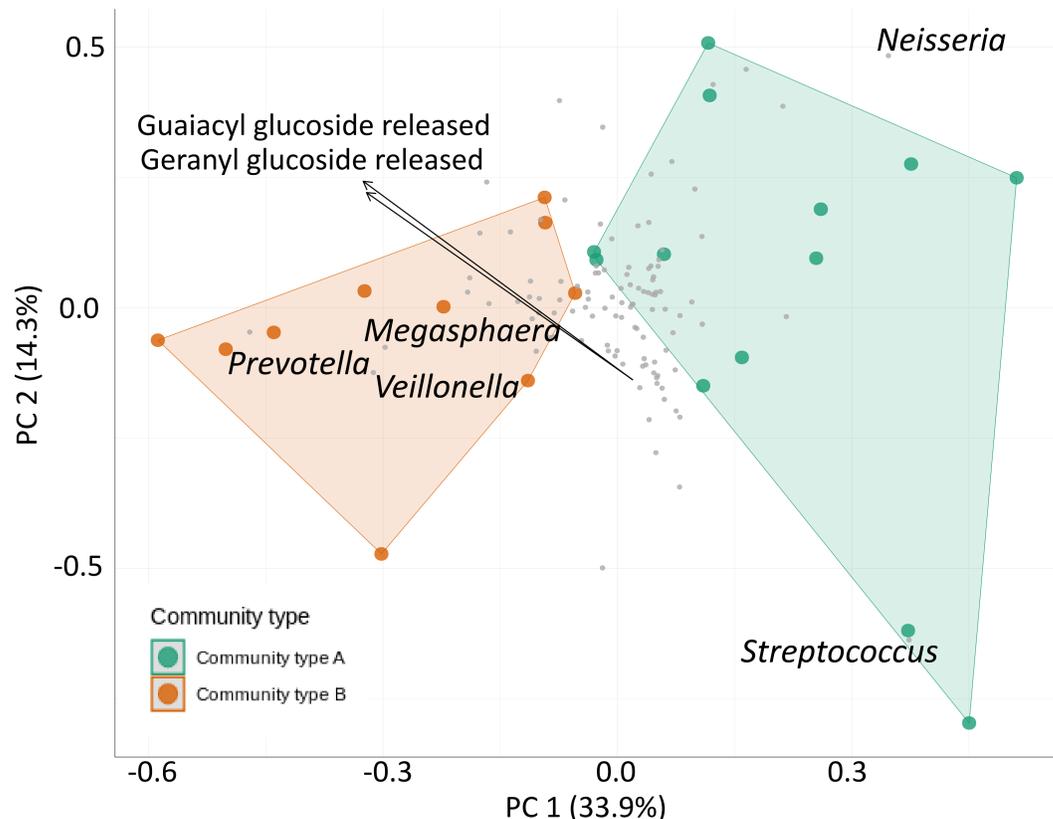
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Aim: To understand whether human oral microbiota determine release of aroma compounds from glucosides in saliva



- Oral bacteria are the main source of enzymes capable of breaking down glucosides in the human mouth.
- When glucosides break down in the mouth, aroma compounds are released, perceptible as retronasal odour.
- Some individuals do not experience flavour from glycosides.
- The link between oral microbiota and release of aroma compounds from two glucosides during *in vitro* incubation with whole fresh saliva was investigated.



Principal component analysis of bacteria OTU abundances in saliva from 23 individuals. Individuals represented by green and orange dots and bacteria (OTUs) as grey dots. Saliva release in increasing gradient is indicated by arrows.

16S rRNA gene sequencing of saliva

- 363 types of bacteria identified (operational taxonomic units, OTUs)
- Bacteria grouped into two community types
- Microbiota stable over four weeks in cohort of 23 individuals

In vitro saliva release of aroma compounds from glucosides

- Saliva incubated with guaiacyl glucoside and geranyl glucoside in the laboratory
- Wide range of release, 2 - 99.9 %
- Higher saliva release correlated with higher *Prevotella* and lower *Streptococcus* abundance

Are oral microbiota the key to understanding why some people perceive flavour from glycosides and others don't? Check out poster 96

Conclusion:

- Oral microbiota could be classified into two community types.
- Oral microbial community was highly correlated with *in vitro* saliva release of aroma compounds from glucosides.

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