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Antimicrobial activity of Streptococcus salivarius K12 on bacteria involved in oral malodour.

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Abstract

OBJECTIVE: To investigate the **antimicrobial activity** of the bacteriocin-producing strain **Streptococcus salivarius K12** against several **bacteria involved** in halitosis.

DESIGN: The inhibitory **activity** of S. **salivarius K12** against Solobacterium moorei CCUG39336, four clinical S. moorei isolates, Atopobium parvulum ATCC33793 and Eubacterium sulci ATCC35585 was examined by a deferred antagonism test. Eubacterium saburreum ATCC33271 and Parvimonas micra ATCC33270, which have been tested in previous studies, served as positive controls, and the Gram-negative strain Bacteroides fragilis ZIB2800 served as a negative control. Additionally, the occurrence of resistance in S. moorei CCUG39336 to S. **salivarius K12** was analysed by either direct plating or by passage of S. moorei CCUG39336 on chloroform-inactived S. **salivarius K12**-containing agar plates.

RESULTS: S. **salivarius K12** suppressed the growth of all Gram-positive **bacteria** tested, but the extent to which the **bacteria** were inhibited varied. E. sulci ATCC35585 was the most sensitive strain, while all five S. moorei isolates were inhibited to a lesser extent. Natural resistance seems to be very low in S. moorei CCUG39336, and there was only a slight decrease in sensitivity after exposure to S. **salivarius K12** over 10 passages.

CONCLUSION: Our studies demonstrate that S. **salivarius K12** has **antimicrobial activity** against **bacteria involved** in halitosis. This strain might be an interesting and valuable candidate for the development of an **antimicrobial** therapy for halitosis.

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