

Antimicrobial Activity of Kaurane Diterpenes against Oral Pathogens

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Two kaurane diterpenes, *ent*-kaur-16(17)-en-19-oic acid (KA) and 15- β -isovaleryloxy-*ent*-kaur-16(17)-en-19-oic acid (KA-Ival), isolated from *Aspilia foliacea*, and the methyl ester derivative of KA (KA-Me) were evaluated against oral pathogens. KA was the most active compound, with MIC values of 10 $\mu\text{g mL}^{-1}$ against the following microorganisms: *Streptococcus sobrinus*, *Streptococcus mutans*, *Streptococcus mitis*, *Streptococcus sanguinis*, and *Lactobacillus casei*. However, KA did not show significant activity against *Streptococcus salivarius* and *Enterococcus faecalis*, with MIC values equal to 100 and 200 $\mu\text{g mL}^{-1}$, respectively. Our results show that KA has potential to be used as a prototype for the discovery of new effective anti-infection agents against microorganisms responsible for caries and periodontal diseases. Moreover, these results allow to conclude that minor structural differences among these diterpenes significantly influence their antimicrobial activity, bringing new perspectives to studies on the structure-activity relationship of this type of metabolites with respect to caries and periodontal diseases.

Key words: Kaurane Diterpenes, Oral Pathogens, Antimicrobial Activity, *Aspilia foliacea*