Aim: Study was conducted to determine if DentaTabs produced by Tartar Shield Pet Products, Healthy Mouth (HealthyMouth, LLC), C.E.T. AquaDent (Virbac AH, Inc.), VetzLife Oral Care Gel (PetzLife Products, Inc.) and PlaqueOff (SweDenCare AB) exhibited antimicrobial activity against four oral bacteria, *Streptococcus mutans, Actinomyces viscosus, Porphyromonas gingivalis* and *Porphyromonas asaccharolyticus*.

Experimental Design: Anaerobic CDC blood agar plates were individually swabbed with fresh 24 h broth cultures of *Streptococcus mutans* UA159, *Actinomyces viscosus* (ATCC 43146), *Porphyromonas gingivalis* (ATCC 33277) and *Porphyromonas asaccharolyticus* (ATCC 25260) to provide a confluent lawn of bacterial growth. Five minutes after swabbing the plates (to allow the inoculum to absorb into the agar), 5 ul of each of the products prepared as instructed (undiluted or a 1:10 dilution of each product) were placed onto three designated places on the plates and allowed to absorb into the agar. The plates were incubated agar-side up at 37°C in an anaerobic GasPak jar for up to 5 days. Plates were examined at 24 and 48 h and 5 days for zones of inhibition of growth surrounding each 5 ul application of the product for each bacterial species. The diameter of each zone was measured in mm. Undiluted and 1:10 dilutions of DentaTabs, Healthy Mouth, C.E.T. AquaDent, VetzLife Oral Care Gel and PlaqueOff and 0.12% chlorhexidine as a positive control were assessed.

Results: The undiluted chlorhexidine (0.12% CHX) significantly inhibited the growth of all four bacteria (see attached Excel spreadsheet and photos). The negative control plate without any bacteria did not produce any bacterial growth. The undiluted DentaTabs inhibited growth of three bacteria (*S. mutans, A. viscosus* and *P. asaccharolyticus*) at 24 hours. *P. gingivalis* does not grow rapidly and therefore we were not able to distinguish growth or inhibition of growth at 24 hours. All four bacteria (*S. mutans, A. viscosus, P. gingivalis* and *P. asaccharolyticus*) were inhibited by the undiluted DentaTabs at 48 hours. At 5 days three of the bacteria (*S. mutans, A. viscosus, and P. gingivalis*) were inhibited by the undiluted DentaTabs. However, the undiluted DentaTabs only weakly inhibited the *P. asaccharolyticus* at 24 and 48 hours and not at all at 5 days. The undiluted VetzLife Oral Care Gel inhibited growth of *S. mutans* at all timepoints. In addition, *A. viscosus* was inhibited by the undiluted VetzLife Oral Care Gel (only 24 hours for the *A. viscosus* due to contamination at 48 hours and 5 days). None of the other undiluted products inhibited the 4 bacteria. None of the bacteria were inhibited at the 1:10 dilution of any product.

Conclusion: These *in vitro* results indicate significant inhibition of growth of the four bacteria by the DentaTabs suggesting that the product may reduce the growth of these organisms *in vivo*. The other four products had no (Healthy Mouth, C.E.T. AquaDent and PlaqueOff) or minimal antimicrobial activity (VetzLife Oral Care Gel).
Comparative Antimicrobial Activity of Commercial Products
( Relative Size of Zones of Inhibition)

![Comparison of antimicrobial activity of commercial products against various oral microorganisms.]

*S. mutans* and *Actinomyces viscosus* are common oral microorganisms that are known plaque formers and generally present within dental plaque. *Porphyromonas gingivalis* and *Porphyromonas asaccharolyticus* are oral microorganisms that are generally found in periodontal pockets and are thought to be involved in the development of gingivitis and periodontal disease.