

Summary of the Study on Canine Dental Gel (Dr. WANDEL®)

This study investigates the effects of daily application of **Dr. WANDEL® dental gel** on oral health in dogs, focusing on plaque/tartar accumulation, gingivitis, halitosis, and oral microbiota changes^[1].

Key Findings

- **Plaque reduction:** Significant decrease in plaque scores (58% reduction overall, $p = 0.000003$), particularly in critical teeth (e.g., upper molars: 82% reduction).
- **Gingivitis improvement:** 43% reduction in gingivitis scores ($p < 0.05$), with notable improvements in upper incisors and molars.
- **Thiol compound reduction:** 45% decrease in oral thiol levels (linked to halitosis) using OraStrips® ($p < 0.05$), though sensory tests showed no significant odor reduction.
- **Microbiota changes:**
 - Reduced **β -diversity** ($p = 0.031$), indicating less microbial variability.
 - Decline in *Porphyromonas* spp. (a key periodontal pathogen) and other disease-associated genera (*Fusobacterium*, *Actinomyces*).

Methods

- **Design:** Crossover trial with 5 healthy Beagles over two 28-day phases (test vs. control groups).
- **Intervention:** 1g gel applied post-meal.
- **Assessments:**
 - Visual scoring for plaque, tartar, and gingivitis.
 - Thiol detection (OraStrips®) and halitosis sensory testing.
 - 16S rRNA sequencing for microbiota analysis.

Limitations

- No significant tartar reduction ($p = 0.18$), likely due to short study duration or limited sample size.
- Halitosis sensory results lacked statistical significance.

Conclusion

Daily use of Dr. WANDEL® effectively reduces plaque, gingivitis, and pathogenic oral bacteria, supporting its role in canine periodontal disease prevention. Future research should explore active ingredients and long-term tartar control^[1].

---^[1] Nakazawa et al. (2022), *Effects of Dental Gel for Dogs on the Oral Environment*.