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Study Examines Potential of Anacardic Acids as Root Caries Therapeutics

Alexandria, VA, USA, June 17, 2022 – A study examining the potential of anti-collagenolytic substances to reduce collagen degradation in root/dentinal caries will be presented at the [100th General Session and Exhibition of the IADR](#), to be held in conjunction with the 5th Meeting of the IADR Asia Pacific Region.

Naile Dame-Teixeira of the University of Brasilia in Brasilia, Brazil will present an Interactive Talk presentation, “Anacardic Acids are Potential Therapeutics for Root Caries”, on Wednesday, **June 22nd, 2022 at 9:45 a.m. China Standard Time (UTC+08:00)** during the “Cariology Research-Microbiological Studies/Biofilm IV” session.

The study aims to assess how Anacardic Acids (AAs) impact oral bacteria, from an antibacterial and anti-collagenolytic perspective, as well as their biocompatibility with dental pulp stem cells. Two hemi-synthetic saturated AA-cashew nutshell derivative compounds were selected (LDT11 and LDT409). Bacteriostatic activity was tested against *Streptococcus mutans* R9 and *Veillonella parvula* ATCC17745. Antimicrobial capacity against *S. mutans* biofilms was investigated using a collagen-coated Calgary Biofilm Device (CFU and Live/Dead Confocal). Collagenases from *Clostridium histolyticum*, *Porphyromonas gingivalis* and *S. mutans* were used to assess anti-collagenolytic activity. Biocompatibility of both compounds with Human dental pulp stromal Cells (HDPSCs) was investigated in 3 different donors (DREC ethical approval 251121/HA/336).

AA inhibited the growth of *S. mutans* and *V. parvula*, as well as partially inhibited bacterial collagenases (>5µg/mL). LDT11 (100µg/mL) inhibited 96% of collagenase activity. AA treatment was associated with odontoblast-like morphology, which was observed after 24h of treatment. LDT11 at 50 µg/mL concentration had bacteriostatic activity against *S. mutans* and *V. parvula*, antimicrobial activity against mature *S. mutans* biofilms as well as anti-collagenolytic activity against bacterial collagenases. It was biocompatible with HDPSCs, stimulating cells proliferation and differentiation.

[View this Interactive Talk in the IADR General Session Virtual Experience Platform.](#)

About IADR

The International Association for Dental Research (IADR) is a nonprofit organization with over 10,000 individual members worldwide, with a Mission to drive dental, oral and craniofacial research to advance health and well-being worldwide. To learn more, visit www.iadr.org.

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