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Dugoni School of Dentistry

UNIVERSITY OF THE PACIFIC
Arthur A. Dugoni School of Dentistry

insight

Summer 2018 Research and Scholarship

Welcome to the summer issue of *Insight*, a quarterly newsletter celebrating the accomplishments of our community of researchers. We aim to spotlight insights from people at the Dugoni School working in areas including clinical or biomedical research, the scholarship of teaching and learning, improvement of the health care system, and professional partnerships that advance the field.

RESEARCH IN THE SPOTLIGHT

Effects of Cinnamoyloxy-Mammeisin from Geopropolis on Osteoclast Differentiation and *Porphyromonas gingivalis*-Induced Periodontitis

What is it?
Geopropolis is a substance that certain kinds of bees make from wax, dirt and floral resins to seal and protect their hives. Some indigenous groups have long used it for medicinal purposes. Cinnamoyloxy-mammeisin (CNM) is an anti-inflammatory compound in geopropolis.

What problem does it aim to solve?
Bone remodeling is a continuous process; in a healthy individual, bone is constantly being replaced. Bone loss is a serious health concern. When the balance of osteoblasts (bone builders) and osteoclasts (bone destroyers) goes awry, bone damage and breakage becomes more likely, whether in the legs or the jaw. Osteonecrosis in the jaw in particular is a concern for oral health practitioners. Researchers wanted to find out if CNM had any effects on particular aspects of the bone remodeling process and on osteoclasts in particular.

How does it work?
Researchers tested the effects of CNM in the laboratory (in vitro) and also in mice (in vivo) to see if it would reduce the formation and activity of osteoclasts. In the in-vitro experiments, CNM decreased the number of osteoclasts created and also reduced their bone resorption. In the experiments with the mice, which were infected with the periodontal pathogen Porphyromonas gingivalis, the mice that were given CNM showed less bone loss and reduced osteoclast activity.

What are the real-world implications?
This is potentially a new therapeutic strategy to treat disorders related to bone loss.

What are the next steps?
More research could help uncover the mechanisms behind the effects of CNM, and also investigate whether a CNM-based treatment could be effective in human patients.

Source
"Effects of Cinnamoyloxy-Mammeisin from Geopropolis on Osteoclast Differentiation and *Porphyromonas Gingivalis*-Induced Periodontitis", *Journal of Natural Products* 2017 80 (6), 1893-1899 DOI: 10.1021/acs.jnatprod.7b00194

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Research and Scholarship

UNIVERSITY OF THE PACIFIC LAUNCHES THE *PACIFIC JOURNAL OF HEALTH*

University of the Pacific recently launched the *Pacific Journal of Health (PJH)* as a new way to promote health sciences research and scholarship to the public.

A peer-reviewed online journal, the *PJH* will publish multiple issues per year in fields of health studied on the three campuses of the university. Areas covered will include clinical research and case reports, biomedical research, business and economics of health, education in health disciplines, music therapy, health care delivery, health policy and law and community-based research.

The editorial board also includes faculty members representing University of the Pacific; Stanford University School of Medicine; Federal University of Rio de Janeiro, Brazil; University of California, Merced; California State University, Fresno; University of Paris-Sud, France; and Chang Gung University, Taiwan.

Article submissions from throughout the higher education community are now being accepted at **https://scholarlycommons.pacific.edu/pjh**. Most manuscripts will be submitted through the initiative of the author; however, review articles and special issue content will be solicited by the editorial board.

The journal will allow open access to its contents and permits authors to self-archive final accepted versions of published articles on any Open Archives Initiative compliant institutional/subject-based repository. Unlike most open-access journals, which often charge high publication fees, the PJH is free for both readers and authors.

The publication also has a growing social media presence at **www.twitter.com/pacificjhealth** to help promote health research and scholarship to the public.

We encourage potential authors to read the instructions for authors and to cite references in the correct format for the journal. The instructions include a downloadable EndNote file, which allows authors to format the references conveniently in the right format for *PJH*. Workshops on the use of EndNote are planned soon in our school.

Contact *Insight:* Have comments or suggestions on this or future issues of *Insight*? Contact Dr. David Ojcius, Assistant Dean for Research and Chair of the Department of Biomedical Sciences, to share your thoughts or to learn more about how to get involved in research at the Dugoni School. Email: dojcius@pacific.edu