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Salivary biomolecules and oral health

Increasingly, human saliva is used as a valuable biomarker to the identification of oral and systemic diseases. Additionally, salivary biomolecules can provide powerful activators for antimicrobials in the treatment of oral malodor and oral diseases. This presentation describes the discovery and use of a pharmaceutical composition of stabilized chlorine dioxide for the treatment and prevention of oral malodor and disease where in the composition is buffered specifically to react to salivary biomolecules of the oral cavity. A novel means of composing has been discovered wherein the activation and release of active (gaseous chlorine dioxide) from the composition a) occurs rapidly and without a measurable interval of induction, b) results from the oxidative reduction and consumption of amino acids and volatile sulfur compound precursors, and c) generates twice the available active as that generated from conventional formulations. Further, a novel means to measuring the oxidative consumption of salivary biomolecules is revealed and discussed. Implications for future use of salivary biomolecules as biomarkers of disease and oral malodor are discussed as well as implications for future research of using the measurement of the consumption of salivary biomolecules by antimicrobials in disease diagnosis and treatment.

Biography

James L Ratcliff is Chairman of the Board and CEO of Rowpar Pharmaceuticals, Inc., Scottsdale, AZ, maker of the Dentists Choice and Cl6SYS brands of oral care products. In 2014, He was the recipient of the U.S. Small Business Administration's Exporter of the Year Award. From 1989 to 2000, he served as senior research scientist, professor and director, Center for the Study of Higher Education at the Pennsylvania State University. From 1979 to 1989, he was professor and program head for higher education at Iowa State University. He is author of 120 articles, books, book chapters, patents and patents pending, and has served as a consultant to colleges, universities, NGOs and government agencies on six continents. He is active member of the Arizona International Growth Group, the American Education Research Association, the American Association for Dental Research, the Association for Corporate Growth, the Association for the Study of Higher Education, the Economic Club of Phoenix, International Association for Dental Research, and the Phoenix Committee on Foreign Relations. He holds a PhD in Higher Education Management from Washington State University, a MA in History from Washington State University, and a BA from Utah State University.

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