

# Saliva extracellular RNA: new horizon in dental, oral and craniofacial research

July 26 2018

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At the 96th General Session of the International Association for Dental Research (IADR), held in conjunction with the IADR Pan European Regional (PER) Congress, David Wong, University of California, Los Angeles, USA along with Roger Alexander, Pacific Northwest Research Institute, Seattle, Washington, USA, hosted the symposium "Saliva Extracellular RNA: New Horizon in Dental, Oral and Craniofacial Research" on Wednesday, July 25. The IADR/PER General Session & Exhibition is in London, England at the ExCeL London Convention Center from July 25-28, 2018.

In 2013, the National Institutes of Health, Bethesda, Maryland, USA created the Common Fund's Extracellular RNA Communication Consortium (ERCC)—a program that aims to establish fundamental biological principles of extracellular RNA (exRNA) secretion, delivery and impact on recipient cells. These principals help describe exRNAs in human biofluids and the extent to which non-human exRNAs are present to test clinical utility of exRNAs and to provide a data and a resource repository for the community at-large.

While the ERCC has a mandate to study RNA circulating in the body outside of cells, saliva is unique in that it has a large fraction of exogenous exRNA, coming not from remote organs and tissues but from the oral microbiome. exRNAs are often functional and can be used as biomarkers and leveraged into a diagnostic tool to diagnose diseases and track their progression.

Speakers in the symposium provided an overview the exRNA profiles of human biofluids, providing a foundation for the focus on saliva. Available exRNA datasets and analysis software were discussed as well as a case study showing how salivary exRNA can provide information about systemic disease.

The symposium highlighted new discoveries about oral exRNA biology, explained how to tailor the analysis of RNA sequencing data from saliva to account for its high fraction of exogenous RNA and allowed for discussion on how to capitalize on the potential of salivary extracellular RNA to improve research and practice. Talks included "Extracellular RNA Profiles in Human Biofluids" by Eric Alsop, Translational Geomics Research Institute (TGen), Phoenix, Arizona, USA, "Overview of the exRNA Atlas and exceRpt RNA Analysis Pipeline" by Joel Rozowsky, Yale University, New Haven, Connecticut, USA and "Saliva Extracellular RNA (exRNA): New Horizon in Salivary Biology" by David Wong. The symposium was held on Wednesday, July 25 from 3:15 p.m. - 4:45 p.m. at the ExCeL London Convention Center.

Provided by International & American Associations for Dental Research

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