

Salivary diagnostics, the 'magic mirror' to your health ... at your personal computer

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Accuracy, convenience, and non-invasiveness are the most critical characteristics for any diagnostic tool. A new concept, Salivaomics Knowledge Base (SKB), an in silico (i.e., performed on computer or via computer simulation) saliva diagnostic atlas, is launching today during the 37th Annual Meeting of the American Association for Dental Research in Dallas, Texas.

With people increasingly adopting a 'digital life', the SKB will serve as a catalyst for future development and expansion of salivary diagnostics. For over three years, saliva has shown genuine promise as a diagnostic tool for oral cancer detection. As a result, the scientific community and general public have developed a keen interest in its value.

Central to the SKB is the recent creation of two diagnostic alphabets in saliva, the proteome and the transcriptome. In the SKB, the salivary proteome and transcriptome are mapped to 23 human chromosomes, totaling 1166 distinct proteins and 851 unique mRNA transcripts in saliva. The available information presently includes profiles from healthy males and females, as well as oral cancer patients. These profiles can be used to determine distinct differences between groups of interest.

For example, if one wants to know the differences in the salivary protein or transcriptome profiles of males and females, the user-friendly interface can be utilized to retrieve information from the database. First, an overview of the biomarker distribution on the 23 human chromosomes can be determined. Then, one can zoom in on specific

gene segments to extract more detailed information, all done on one's personal computer.

This is the first step of this SKB initiative. The database is expanding and will soon include information for pancreatic cancer, breast cancer, lung cancer, ovarian cancer, diabetes, and Alzheimer's disease. The short-term goal of the SKB is to share information with scientists globally in an effort to reduce redundancy and enhance the appeal of salivary diagnostics.

Source: International & American Association for Dental Research

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