A step forward to implement saliva as diagnostic fluid

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In the last decade, saliva has gained an emerging interest as a liquid biopsy. There are many advantages of using saliva as a biofluid since its collection is fast, easy, inexpensive, and non-invasive. In addition, saliva, as a "mirror of the individual," can reflect the pathological and physiological states of the body. Therefore, it could be used for the evaluation of wellbeing/disease and therapeutic/intervention monitoring in different conditions. However, it is still necessary to establish the standard values of saliva molecules in both health and disease.
In this work we aimed to establish the concentration intervals of common molecules (IL-1ß, IL-10, CCL-3, CCL-13, MMP-9, Beta-Endorfin, Orexin, Oxytocin and Substance-p, C-Peptide, Glucagon and Insulin) in the saliva of healthy individuals.
Quantification was carried out by xMAP ® Multiplex system using the xMAP® Multiplex immunoassay kits Bio-Plex Pro™ Human Th17 Cytokine, Chemokine and MMP9 panels and Milliplex Human High Sens T Cell Mag panels for inflammation, neuromodulation, and Diabetes.
The average concentration of several molecules in saliva of healthy individuals was: IL-1b (27.87 pg/mL), IL-10 (8.39 pg/mL), CCL-3 (54.38 pg/mL), CCL-13 (83.35 pg/mL), MMP-9 (8.62 pg/mL), Beta-Endorfin (3534.72 pg/mL), Orexin (58376.30 pg/mL), Oxytocin (925.87 pg/mL), Substance-P (47.71 pg/mL), C-Peptide (11.93 pg/mL), Glucagon (10.16 pg/mL) and Insulin (139.27 pg/mL).
Our results show that it is possible to quantify molecules related to inflammation, bone resorption, neuromodulation and metabolism in human saliva. Further research should be carried out in order to assess if saliva can be used as a liquid biopsy for point-of-care applications.
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