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Salivary flow cytometry: a reliable tool for immunophenotyping

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Abstract
Host immune responses at mucosal surfaces play a protective role against most infectious diseases. However, tools to determine cellular responses at the mucosal surfaces remain less explored. We aimed to determine the relative percentages, consistency of detection and reproducibility of detection of immunophenotypes in stimulated whole mouth fluid (SWMF). SWMF samples were collected from 100 healthy participants and sequential concomitant samples were collected from 8 of those. CD3, CD4, CD8, Th1, Th2, Th17, Th22, Tfh, Tregs, ILC, NK and NKT cells phenotypes were determined by FACS. All the immunophenotypes were detected consistently by FACS in experimental replicates (N=5; PBMC CV: 3-30%; SWMF CV: 9-41%). The detection rates in longitudinal samples were reproducible in both fluids but showed variations that were higher in SWMF (CV: 12-74%) than PBMC. Correlation analyses of these immunophenotypes in the PBMC and SWMF samples were done and results will be discussed in the meeting. Thus our study provides a robust FACS protocol for the detection of the major immunophenotypes in mucosal fluid like SWMF.