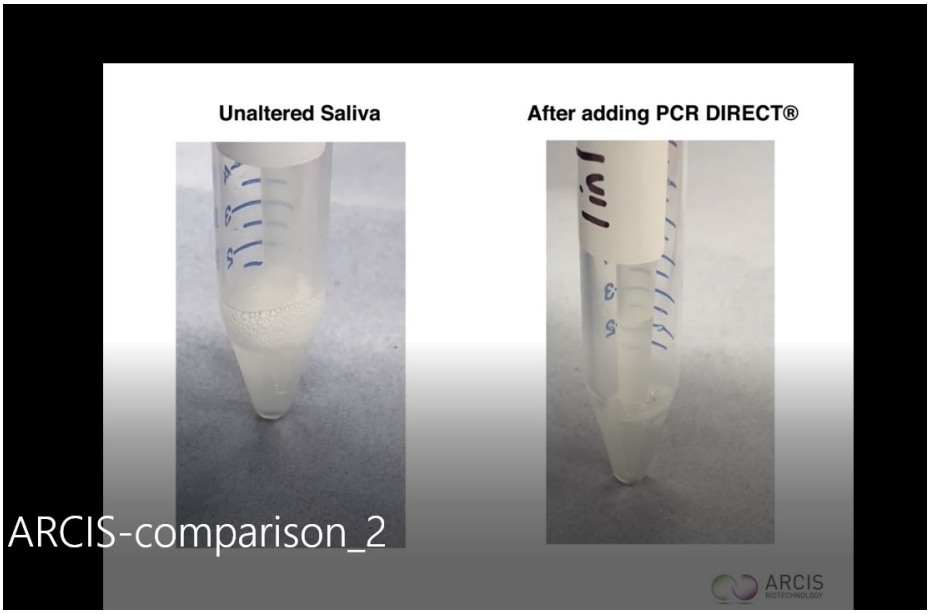
Saliva Extraction Reagent liquifies saliva on contact

PCR DIRECT Saliva Extraction Reagent is added to saliva that was freshly collected via the spitting method. Initially, the saliva is viscous, filamentous in nature and adheres to the sides of the tube. These properties result in inaccurate pipetting, increased contamination risk and drive manual-only processing. After the addition of PCR DIRECT, the saliva is transformed into a low-viscosity fluid.



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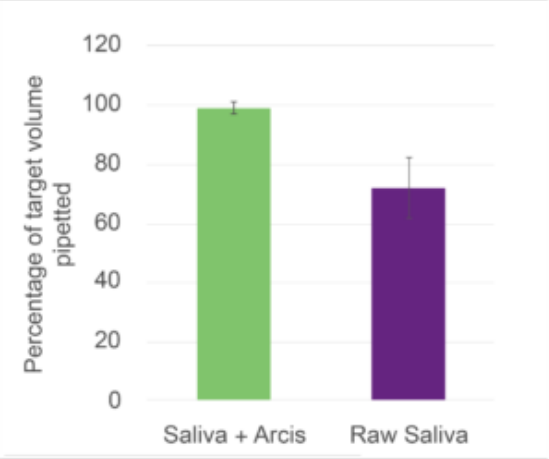
Improved saliva pipetting accuracy



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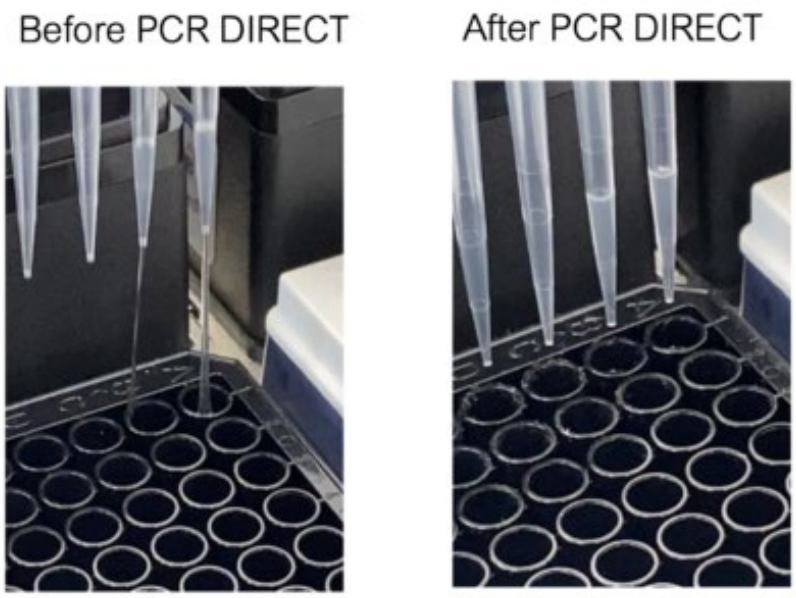
The volume transferred was measured relative to the target volume. Results are averages of 32 replicates for saliva mixed with PCR DIRECT and 8 replicates for raw saliva.

Reduced viscosity improves automated liquid handling accuracy



Saliva samples were mixed by pipetting a ratio of 100 µL saliva to 231 µL reagent

An automated liquid handler (OT-2, Opentrons) attempts to aspirate saliva that was freshly collected via spitting. Before the addition of PCR DIRECT, long filaments remain attached to the pipette tips. After the addition of PCR DIRECT, the automated pipettors easily aspirate the liquified saliva.

To quantify the impact on accurate pipetting, the volume of aspirated saliva and saliva treated with PCR DIRECT was measured by increasing volumetric aspirations with a micro pipettor. This was then converted into a percentage of target volume pipetted and is shown in the chart to the right. Without treating raw saliva, there is an approximately 30% reduction in aspirated versus target volume of saliva. This significant reduction in aspirated saliva would result in under sampling and subsequent losses in sensitivity.