COPAN CPA200™ SEMI-AUTOMATED CARD PUNCHER – VERSION 2 PERFORMANCE

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The CPA200™ is a semi-automated punching system to process blood or saliva samples, spotted on filter-paper or cards. CPA200™, was first released in 2015, Copan now developed the CPA200™ Version2 (V2) after collecting feedback from North-America, Europe and Asia end-users. New features added are punches from processed cards, number of cleaning strikes, resuming protocol, plate layout cloning, automatic export of reports, renewed graphic software interface, speed performance and compatibility with different brands of 96-wells plates. The study objective was to demonstrate that the CPA200™V2 can generate punches from saliva or blood samples deposited on cards or collector devices, to obtain human DNA profiling without DNA carryover between wells/samples.

Saliva and blood from different donors were spotted on FTA® cards (FTAC), NUCLEIC-CARD™ Color (NCC) for saliva, NUCLEIC-CARD™ White (NCW) for blood and Buccal DNA Collector (BBC) for saliva. Five 96-wells-microplates were tested, filled with punches performed by the CPA200™V2 following a ½ zebra + ½ checkerboard pattern, composed of negative control punches from blank cards alternated with punches from (1) NCC with saliva; (2) indicating FTAC with saliva; (3) NCW with blood, (4) non-indicating FTAC with blood, and transferred into empty wells; (5) BBC with saliva transferred into wells prefilled with Prep-n-Go™ Buffer. One cleaning punch was done from blank cards between consecutive samples to clean the puncher and avoid cross-contaminations. All punches were amplified with GlobalFiler® Express PCR Amplification Kit on Veriti® 96-well Thermal Cycler and fragments were analyzed on Applied Biosystems™ 3500 Genetic Analyzer. Data was analyzed with GeneMapper ID-X v1.4.

When performing a zebra-checkerboard-plate-pattern with the CPA200™V2, 100% complete and reproducible DNA profiles were obtained from punches of three different card types spotted with saliva and blood. No cross-contamination or foreign alleles were detected. No random carryover contamination was detected in all negative control punches.