

## Abstract 4

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### **A NOVEL ONE STEP SAMPLE COLLECTION DEVICE THAT SIMPLIFIES THE TRANSFER OF BUCCAL CELLS FROM AN APPLICATOR TO FTA<sup>®</sup> MATRIXES**

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We have developed a novel one step sample collection device that was designed to simplify the transfer of buccal cells to FTA Matrixes. The device consists of a foam applicator that facilitates the collection of buccal cells, and a card holder that positions the FTA matrix in place to receive a transfer of buccal cells from the applicator. Once the applicator has collected buccal cells from inside the mouth, the device folds over and the foam applicator snaps in place against the FTA matrix to generate a consistent, uniform transfer pressure. The device subsequently releases the applicator from its snap position to its resting position off the FTA matrix to allow for proper drying. We show that transfer efficiency of buccal cells from the applicator to the matrix is uniform across the application area. Three different applicator foams were evaluated for use with the device, and transfer of saliva from each foam type to Indicator FTA paper was measured. Eleven 2 mm punches taken from each buccal cell collection area were used with the aid of PCR and the Experion Bioanalyzer to map the transfer region. In addition, PowerPlex 16 STR analysis and DNA yield data will be presented on buccal samples taken with the One Step Sample Collection Device.