BODE ARMOR: ENHANCED PROTECTION FOR DNA DATABANKING SAMPLES.

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The stability of a DNA buccal sample is difficult to predict after extended years of storage. The stability of a DNA sample can also vary from collector to collector as each sample is unique in the amount of DNA recovered, the bacteria or enzymes contained in the individual's mouth that are collected with the sample, and the storage conditions. Based on an ongoing DNA stability study, DNA collected and stored on Bode Buccal DNA Collection devices are stable at the ten year collection point.

Bode's newest development to enhance DNA stability is Bode Armor, a proprietary preservative solution that can be applied after sample collection. Bode Armor prevents DNA degradation by inhibiting nucleases and preventing the growth of bacteria as well as other factors associated with DNA degradation. This presentation will detail the developmental studies providing evidence of DNase and bacteria inhibition as well as long term accelerated studies displaying the enhanced DNA stability.

Accelerated stability studies were performed by placing Bode Armor treated Buccal DNA Collector samples in a 56°C incubator for 3 years. At the 3 year time point, samples were removed from the selected storage conditions and processed using standard DNA analysis procedures. Using an accelerated aging calculation[1], storage for 3 years at 56°C equates to storing at room temperature (22°C) for thirty (30) years.

After storage at 56°C for 3 years, an average quantification value of 2.64 ng/µl was obtained with an average degradation index value of 3.77. While some degradation has occurred at the estimated 30 year time point, all of the genetic information is available for comparison to an evidentiary sample or confirmation testing.

This study demonstrates the next step in enhancing buccal sample stability; Bode Armor. Bode Armor, when applied to collected samples, prevents naturally occurring enzymes, bacteria, and additional factors collected from the individual's mouth from affecting DNA yields and profile success rates. Combining low humidity storage (The Bode Vault) and a preservative solution (Bode Armor), Bode's scientists have shown stability of a buccal DNA sample up to 30 years during an accelerated study.

1

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