Evaluation of the Biomatrica™ SampleMatrix® Room-Temperature DNA Storage System

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BioMatrica™ has introduced a novel method for the storage of extracted DNA at room temperature. This evaluation demonstrates the efficacy of the Biomatrica SampleGard™ and SampleMatrix® system in storing DNA under various conditions. The SampleMatrix® technology was inspired by the natural phenomenon of anhydrobiosis. Anhydrobiosis is best described as the desiccated, suspended state that some microscopic organisms enter in response to adverse environmental conditions. This state allows organisms to rehydrate and reemerge when conditions become favorable enough to support life. BioMatrica™ has developed a synthetic polymer that protects DNA in the same manner as anhydrobiosis allowing for extended, stable storage of purified DNA. The SampleGard/SampleMatrix® system allows for the application of liquid samples to storage plates that contain this polymer. Once dried, the applied samples become encapsulated within this polymer matrix and are theoretically protected from any environmental sources of degradation allowing for extended storage time.

In this evaluation we compare the use of the BioMatrica™ system at room temperature to the current method of storing purified DNA (-20 °C). Additionally, we present data from BioMatrica™ storage plates that have been subjected to contamination, temperature excursion and sensitivity experiments. Samples prepared for this study include extracts from semen, blood and buccal swabs. The results presented in this evaluation summarize the findings from one year of evaluation.