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Storing Biological Samples is Not that Easy! by [James Blee](#)

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An important aspect of biological research revolves around the gathering and collection of biological samples and their preservation, examination and analysis. These samples often degrade over time so it is necessary to develop a process that is efficient and preserves sample over time. They are stored in cold environments in refrigeration at a temperature ranging from -1700 degree Celsius to -40 degree Celsius. There are additional challenges to the use of cold storage, the main short comings being cold packing and shipping that produce a large amount of waste materials. They also involve high purchase cost and energy cost as the sample collection grows. Heat generated from refrigerators or freezers further enhances the demand of facility requirement costs and plans to stabilize environmental conditions at lower temperatures. The freezers take up huge lab space that inhibits the current and new facility or research space needs. Multiple freezes cycles can lead to sample quality degradation, cold freezing of bio-tissues can lead to cell membrane damage, power or freezer failure can place samples at risk for degradation and loss.

In recent years, new technologies developed for the stabilization and storage of biological samples at room temperature. Biometrician's™ room temperature samples stabilization and storage technology is based on extremeophile that allows some organisms to protect their DNA, RNA proteins and cells for long-term survival in a dried state so that they can be later revived by simple rehydration. This method transfers the natural molecular principles for anhydrobiosis to a synthetic chemistry-based stabilization that works by forming a thermo-stable barrier around the sample protecting it from degradation during storage at room temperature. Biological sample recovery is as simple as rehydrating the mixture, making the sample ready for use in a wide variety of downstream application such as microarray analysis, DNA and RNA sequencing of end-point PCR, cDNA synthesis and transcription etc..

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