

# PRESS RELEASE

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## **Transfer of Biological Samples from Frozen Storage to Room-Temperature Storage Could Significantly Reduce Electricity Usage, Carbon Footprint and Operating Costs at Major U.S. University, Results from Pilot Project Show**

Biomatrica's SampleMatrix(R) Technology Used in Sustainability Initiative

SAN DIEGO, June 3 /PRNewswire/ -- A major U.S. university could cut its electricity usage by 40 million kilowatt-hours (kWh), reduce its carbon footprint by an estimated 18,000 metric tons and save \$16 million in operating costs over the next 10 years by transferring biological samples from frozen storage to room-temperature storage technology, according to the results of a pilot project released by Biomatrica(R) Inc.

Part of a sustainability initiative, the pilot project involved the transfer of 70,000 DNA and RNA samples from low (-20 degrees C) and ultra-low-temperature (-80 degrees C) freezers in 12 laboratories to a novel room-temperature storage technology called SampleMatrix that was developed by Biomatrica. Fourteen other laboratories at the university provided detailed sample collection data. In addition to the pilot project information, researchers used data specific to the university as well as industry trends to develop a forecast model for determining the benefits that the university could derive by applying the room-temperature storage technology to the 9 million to 13 million addressable samples currently stored in approximately 2000 freezers in 350 laboratories around the campus.

"Two ultra-low-temperature freezers use as much energy in a year as a single family home," said Rolf Muller, Ph.D., president and CSO of Biomatrica. "Universities and research institutes could substantially reduce their carbon footprint and reduce the cost of storage for biological samples simply by transitioning to room temperature storage using Biomatrica's SampleMatrix technology."

Other findings released show that the university could:

- Reduce its use of chilled water by 7 million ton-hrs over 10 years by transferring samples from freezers to the room-temperature storage technology
- Realize a total energy savings of 160,000 million BTU over the 10-year period
- Create a secure sample storage system that can easily be evacuated and maintained without power in any emergency situation

Detailed information about the pilot project can be found in the case studies located on Biomatrica's Web site at: [http://www.biomatrica.com/sustainability\\_resources.php](http://www.biomatrica.com/sustainability_resources.php)

SampleMatrix is based on extremophile biology in which organisms are able to survive long-term in a state of anhydrobiosis (life without water) and later be revived by rehydration. Extremophiles such as tardigrades, also known as water bears, and brine shrimp are able to protect their DNA, RNA, proteins, membranes and cellular systems in a dried state for extended periods of time. Biomatrica's technology mimics the natural molecular mechanisms used by these organisms. The technology works by forming a thermo-stable barrier during the drying process to protect samples from degradation during storage at room temperature. For more information about the SampleMatrix technology and the Biomatrica products utilizing this technology platform (DNAstable(R) for DNA, RNAstable(R) for RNA and CloneStable(R) for bacterial DNA), visit: [www.biomatrica.com](http://www.biomatrica.com).

**Contact** :Heidi Chokeir, Ph.D., or Martina Schwarzkopf, Ph.D. Russo Partners (619) 528-2217 (212) 845-4292  
[heidi.chokeir@russopartnersllc.com](mailto:heidi.chokeir@russopartnersllc.com) [martina.schwarzkopf@russopartnersllc.com](mailto:martina.schwarzkopf@russopartnersllc.com)

OR Judy Muller-Cohn, Ph.D., Biomatrica 858-550-0308, [jmullercohn@biomatrica.com](mailto:jmullercohn@biomatrica.com)