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Biomatrix Goes After \$34B Market For Preserving Lab Samples

Dry-Storage Technology Requires No Refrigeration, Thus Saving Space

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When temperatures rise in the desert, leaving little solace but a slice of shade from a saguaro cactus, some animals take shelter in another place — a time lapse of sorts called anhydrobiosis.

It means “life without water,” and enables some small organisms’ survival for up to 120 years without growth, reproduction or movement.

San Diego-based Biomatrix Inc. has applied the principles of this phenomenon in a new technology called SampleMatrix that is being used to preserve lab samples without refrigeration.

The dry-storage technology can be used to save money and space for biotechnology or forensic applications or for military use to keep vaccines suitable during transport for soldiers in remote areas.

Testing Biomatrix’s technology now are several large pharmaceutical companies, academic laboratories, NASA, the U.S. Navy and the San Diego County Sheriff’s Department crime lab.

Biomatrix founders Rolf Muller and Judy Muller-Cohn are husband and wife, business partners and molecular biologists who saw a gap in the \$34 billion bio-stability market for sample storage.

Muller, the chief scientific officer, named some of the testing parties as GlaxoSmithKline, Johnson & Johnson, DuPont and some research labs at Harvard University and every University of California campus.

That’s a heavy-duty list for a startup with 12 employees, including just three salespeople.

Muller-Cohn, the chief executive officer, said while it costs a lab about \$1 per year to store a sample in a freezer, the dry storage her company has developed costs 35 cents per sample.

As a scientist at the former Mycogen, now part of Dow AgroSciences, Muller-Cohn once lost 1,000 samples as a result of an electrical lapse at her lab.



Biomatrix Research Scientist Sohela de Rozieres transfers samples of nucleic acid for storage using the company’s new no-freezer method.

That can mean weeks or even months of lost work for scientists, she said.

Biomatrica has a patent pending for its technology, which is a synthetic polymer that stabilizes biological samples, such as DNA, viruses, proteins and cells, at room temperature. Materials are revived with a little water.

The life sciences community here seems to largely agree that Biomatrica's technology is promising. In December, a panel of two dozen well respected, local high-tech and biotech executives named Biomatrica a winner at Connect's Most Innovative Product Awards in the diagnostics and research tools category. Connect is a technology-transfer and networking trade group that fosters entrepreneurship and partnerships in life sciences and high-tech.

A Potential Problem Solver

Muller-Cohn said other techniques for sample storage include freeze-drying, though she said it is laborious and expensive. Another method is the use of cellulose-based filter paper, but recovery of the complete sample is poor, Muller-Cohn said.

Biomatrica began selling its product in June.