

Storage Medium Protects Sensitive Biological Materials

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Preserving the structural and functional viability of biological materials is essential for biochemical and biomedical research. However, protective agents that are commonly used today, such as fish proteins, are only effective with certain sample types. Now researchers at the University of Wisconsin-Madison have invented a preservation medium that works well with a variety of biological materials.

A new preservation and storage medium for biological materials was developed in 1999 by Juan DePablo, Ph.D., professor of chemical engineering at the University of Wisconsin. Funding was provided by the National Science Foundation and Rhodia (now part of Danisco Co.).

Disclosed in 2000, the preservation medium is a mixture of monosaccharides, polysaccharides and phosphate ions. It works as a cryopreservative that stabilizes biological materials during freezing and/or drying processes, while maintaining the structure and function of these samples.

“ Compared to other storage mediums on the market, this material provides longer-term stable preservation over wide ranges in temperature and humidity, works well for both freeze-drying and ambient-temperature drying and is less expensive.

Many biological materials can be preserved using this new medium, including enzymes, proteins, viruses, vaccines, tissues, blood, foodstuffs, semen and nucleic acids. This technology can also be used for increasing the shelf life of temperature-sensitive health-care supplements, such as probiotic capsules and powders, as well as freeze-dried bacterial cultures used in the dairy industry.

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