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Biosensor for Detecting Viscosity Changes

Miniaturized platforms provide rapid, low-volume screening for biopharmaceutical degradation, enabling quality assessment across the pharmaceutical delivery chain outside of quality control laboratories.

When pharmaceutical preparations are improperly stored, drug safety and efficacy need to be monitored to ensure that the pharmaceutic delivers its intended effect and to prevent potential illness from degraded product. Current screening platforms for the stability of protein-based biopharmaceuticals in high throughput and low volume are unavailable outside of production and quality control laboratories. Miniaturized platforms for analyzing biopharmaceutical degradation could provide significant advantages to current macroscale systems. These include the ability to assess the quality of a pharmaceutical either during development, at distribution points, at the clinic, or within patient homes.

Researchers at Purdue University have developed and designed miniaturized platforms for analyzing biopharmaceutical degradation. This technology provides significant advantages to current macroscale systems and allows for rapid testing of pharmaceuticals outside of the quality control laboratory using small sample volumes. The method has been proven with several different biopharmaceutical formulations and can discriminate as little as 5 percent degradation of insulin in a solution. This technology is a new tool for biopharmaceutical analysis and could readily be implemented at key points of the pharmaceutical delivery chain.

Advantages:

-Requires only a small sample to test

-Eliminates the need for lab testing

-Eliminates waste by discriminating degraded vs. intact product

-Eliminates risk of using inactive biopharmaceutical for patients

Potential Applications:

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Category
Pharmaceuticals/Biopharmaceuti
Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

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View online

-Insulin testing

-Biopharmaceutical efficacy tests

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Intellectual Property:

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