Analytical Instrumentation, Methods & Materials

CELL-BASED DNA SENSORS AND METHODS OF USING SAME

View U.S. Patent Application Publication No. US-2024-0026466 in PDF format.

WARF: P210411US02

Inventors: Ophelia Venturelli, Yu-Yu Cheng, Zhengyi Chen

The Invention

UW-Madison researchers have developed cell-based DNA sensors to achieve easy, accurate, and cost-effective detection of pathogens. Using synthetic biology, the inventors engineered the naturally competent bacterium Bacillus subtilis to detect specific DNA sequences in the environment. The resultant B. subtilis mutant includes a novel genetic circuit that controls growth and a fluorescence reporter gene. Upon exposure to a target sequence, the sensor produces a detectable fluorescent signal, resulting in highly specific detection of species/samples containing the target DNA sequence. In addition, the sensor is capable of multiplexed DNA detection in complex samples.

Additional Information

For More Information About the Inventors

- Ophelia Venturelli

Tech Fields

- Analytical Instrumentation, Methods & Materials : Sensors

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854

Figures