Diagnostic Test for Pneumonia: Electrically-Modulated Photonic Biosensors using Electro-Active Waveguides (15030)

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Technology description

Currently, diagnostic tests for influenza and pneumonia have several challenges associated with them. There exists a need for a test that does not possess these challenges.
To meet that need, researchers at the University of Louisville have developed a diagnostic platform that allows for swift identification of bacterial antigens in a patient's urine.
The technology works by using biological and chemical sensors based on an integrated optical waveguide platform with an electrical interface.
The current rapid tests for pneumonia and influenza virus have extremely low sensitivities, making them of limited use in the clinical setting.
Tests with higher sensitivity require much longer turnaround times, limiting their clinical utility. UofL's platform overcomes the limitations of current diagnostic tests by being highly sensitive and having a rapid turnaround time.

Advantages

Rapid influenza diagnostic test;
Provides a high sensitivity;
Includes immuno-fluorescent sensors;
Avoids bulk background signals by being surface-selective;
Other applications; metabolic profiling,
DNA microarrays, biochemical detection, immune-sensors.

Institution

University of Louisville

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