

The lack of automated instruments that can be configured to detect any pathogen of interest has forced many industries to continue to process samples manually, which is time consuming and expensive. Until now. Announcing LexaGene's LX6 open access pathogen detection instrument. LX6 is designed to be placed in facilities where personnel can load collected samples onto the instrument to be screened for up to 22 pathogens at once.

Initiating sample processing takes less than one minute.

The instrument first creates a negative control by combining a solution buffer with master mix. This mixture is placed in the line leading to the thermal cycler, followed by a slug of oil.

The instrument then draws the sample into a disposable cartridge where pathogens are concentrated for Ultra sensitive detection. The instrument breaks apart the captured pathogens to release their DNA and RNA by passing a lysis buffer over the filter.

Next, the instrument adds an alcohol to the lysate and delivers the lysate alcohol mixture to a binding matrix where DNA and RNA fragments are selectively retained.

The binding matrix is washed and dehydrated before an elution buffer releases the DNA and RNA from the matrix. The DNA and RNA are mixed with master mix at the valve, and then this mixture is directed to the same line containing the previously assembled negative control.

The instrument then assembles 12 unique triplex assays that are kept separate by intervening oil slugs. Each triplex assay contains primers and probes for a positive control and two pathogen targets.

The instrument delivers this reagent train to a T junction. where the instrument combines the negative control with the first assay slug and the DNA and RNA containing master mix with the remaining 11 assay slugs. The train is then delivered through a 55 degree Celsius zone for reverse transcription

and then through a 94 degree Celsius zone for activation of TAC polymerase.

The reaction mixtures then enter a thermal cycler, where the targets of interest are amplified, and with every passing cycle, optically analyzed.

Results become available in about one hour. Generated data can be electronically transmitted to the instrument operator, indicating whether any pathogens were detected, their quantity, and whether any drug resistance genes were also detected.

Lexigene's LX 6. Industry's first open access instrument for rapid pathogen detection and characterization.