



smiths detection

SARS-COV-2 AIRBORNE DETECTION

www.smithsdetection.com

Smiths Detection continues to innovate technology to help users mitigate a wider range of threats.

Smiths Detection is a global authority on the application, management and manufacture of world-class detection and screening technology.

With over 40 years' experience, our mission is to use technology to develop innovative solutions and services which protect life, and keep society safe.

The threat of COVID-19 has, once again, made biological detection a critical security need to keep commerce moving and people safe. There has never been a more important time to put practical, high-speed, and highly sensitive pathogen detection in your hands.

Smiths Detection makes real-time detection of viruses, toxins and bacteria possible, providing you with the timely information and confidence in decision-making needed to protect staff, rule out false-alarms, and keep businesses running safely.

MAKING THE WORLD A SAFER PLACE

smiths detection

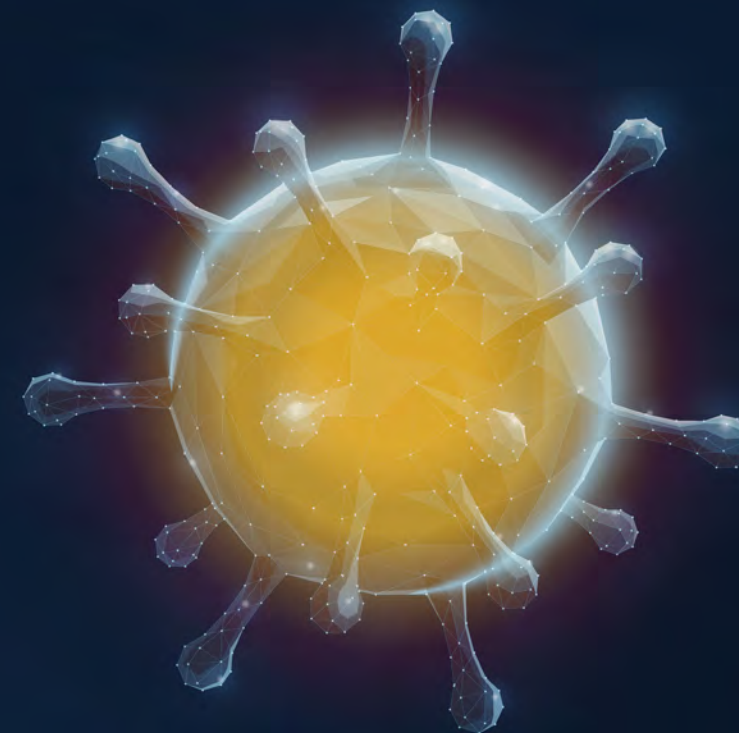


A Breakthrough in Detection

Our CANARY® technology is the next step in pathogen detection focused on a smarter and faster approach.

Originally developed by scientists at MIT - Lincoln Laboratory to fight bioterrorism, CANARY® has been expanded for use in many different fields. In agriculture, it's used to test imported ornamental plants for *Ralstonia*. In food safety, it helps food manufacturers monitor for pathogens like *Listeria* and in environmental monitoring for biological releases or virus transmission. Finally, in mail screening, CANARY® is used in government installations and corporate mailrooms to screen incoming mail for biothreat agents.

Most importantly, CANARY® breaks through the limitations of current laboratory-based biological testing methods allowing detection capabilities to be conducted on-site or at the place of operation. By combining the sensitivity of PCR with the speed of Lateral flow, you get a technology that gives you the best of other solutions in one package. Without the need for lab experience, CANARY® gives users results in minutes, not days, with a level of sensitivity and accuracy not found in similar solutions to date.

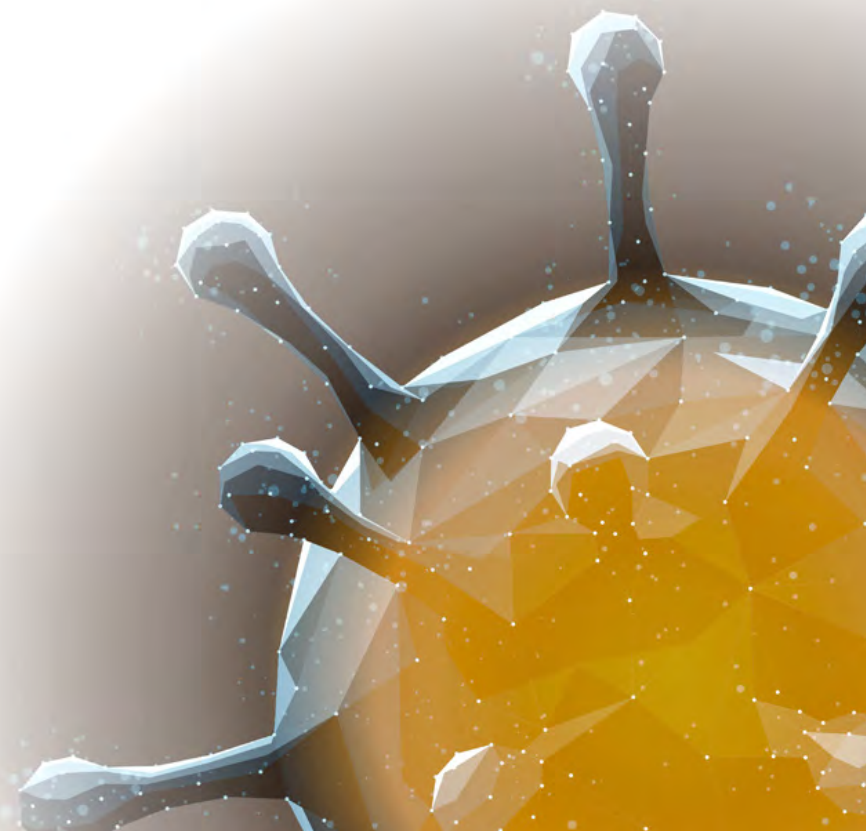


CANARY® is fighting back against COVID-19

With the COVID-19 crisis still threatening our worldwide health and safety, a technology like CANARY® fights back through rapid detection that's easier to conduct.

Tests conducted by the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) at Fort Detrick in Maryland have determined that Smiths Detection's BioFlash Detector, powered by CANARY technology, detects SARS-CoV-2. The SARS-CoV-2 CANARY biosensor used in the BioFlash device demonstrated that it can quickly detect and identify the presence of relatively low levels of aerosolized SARS-CoV-2.

Further testing and research is underway at a number of US universities to collect more data on how the detection technology can help prevent outbreaks and guide both public and private organizations in COVID-19 mitigation strategies.



Third-Party Testing

The evaluation of Smiths Detection's BioFlash® to detect SARS-CoV-2 in aerosols.

COVID-19 is a serious threat to the health and livelihood of the entire world population. There are a number of mitigation efforts being deployed to combat the COVID-19 pandemic. One possible strategy is environmental monitoring for the presence of the virus. Collaboration between Smiths Detection and USAMRIID is aimed at environmental detection. Early detection in public, private, and/or government venues would provide relatively large scale monitoring of key environments and personnel and help identify individuals that may require testing and, in doing so, avoid subsequent exposures. Furthermore, identification of individuals at risk may accelerate medical interventions. The technology may also be useful for evaluating countermeasures. Therefore, USAMRIID has tested Smiths Detection's BioFlash® equipped with CANARY biosensors specific for SARS-CoV-2, the etiological agent of COVID-19.


Briefly, USAMRIID evaluated different concentrations of Washington isolate of SARS-CoV-2 aerosols. Aerosol generation and BioFlash® collections were 5 minutes in duration. Collections were performed on multiple days to provide robustness of the results.

USAMRIID found that the BioFlash® equipped with the SARS-CoV-2 biosensor discs (designed to target two different structural proteins in the virus) was able to determine the presence of the virus when at least 6,000 PFU of SARS-CoV-2 (target dose) was presented to the BioFlash® unit (see Table). A lower presence of the virus, 4,000 PFU, was detected 50% of the time.

USAMRIID found that the **BioFlash® equipped with the SARS-CoV-2 biosensor discs was able to reproducibly detect the virus across a four-logarithm range.** Future testing and research will further define the dynamic range, the specificity, and exclusivity of the system.

Target PFU*	Aerosol tests	Positive tests	% Positive
2,000	4	0	0
4,000	6	3	50%
6,000	6	6	100%
8,000	6	6	100%
10,000	6	6	100%
20,000	6	6	100%
40,000	4	4	100%
60,000	4	4	100%
100,000	2	2	100%
1,000,000	2	2	100%

*Plaque Forming Units



Smiths Detection is one of five operating divisions of Smiths Group, a global technology company listed on the London Stock Exchange. Employing over 23,000 people in more than 50 countries, Smiths Group is a world leader in the practical application of advanced technologies, delivering products and services for threat and contraband detection, medical devices, energy and communications markets worldwide.

Smiths Detection is a global leader in threat detection and screening technologies for aviation, ports and borders, urban security and defence. With more than 40 years of field-tested experience, we deliver the solutions needed to protect society from the threat and illegal passage of explosives, prohibited weapons, contraband, toxic chemicals and narcotics.

For product information,
sales or service, visit:

.....
www.smithsdetection.com
.....