



HYRIS  
GLOBAL DIAGNOSTICS

# SARS-CoV-2 Environmental Testing

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Hyris System

# The SARS-CoV-2 emergency

COVID 19 is the disease caused by the novel Coronavirus identified as SARS-CoV-2 and its transmission through contaminated surfaces is a serious risk for our health. We all heard instructions to wash our hands often, with soap or alcohol-based gels, and to not touch our own face. The point of these is to prevent us from infecting ourselves with the virus that might be on the things we touch in our daily life.

**SARS-CoV-2 is in fact, according to a new study<sup>1</sup>, stable for several hours to days in aerosols and on surfaces. The availability of a rapid test method able to detect a dangerous virus on environmental surfaces is of extreme importance in order to undertake appropriate sanitation measures.**

Offices, manufacturing plants, food preparation sites, supermarkets, public transportation, military vehicles, restaurants, vending machines, healthcare facilities, retirement homes, theatres, cinemas, shopping malls, museum, sports centers and many more should be tested to avoid contaminations due to environmental coronavirus.

<sup>1</sup> N van Doremalen, et al. Aerosol and surface stability of HCoV-19 (SARS-CoV-2) compared to SARS-CoV-1. The New England Journal of Medicine. DOI: 10.1056/NEJMc2004973 (2020).

## What we can do

### 1. Virus presence test

Detection of the virus presence to assess the safety of the environments and develop and implement safety protocols commensurate to the measured risk.

### 2. Sanitation efficiency test

Verification procedure to validate the sanitation strategies and protocols put in place for the removal of the virus from surfaces and environments.

### 3. Monitoring

Allows to immediately identify the virus appearance in the environments and to adopt safety measures avoiding the spread of the infection among the personnel.

## Testing process in 2 steps

### 1. Sampling

Hyris provides dedicated swabs for the safe collection, transport and preservation of the samples. The swabs are based on commercially available technologies developed specifically for environmental surfaces testing.

DIRECT  
AMPLIFICATION  
WITHOUT  
SAMPLE  
PREPARATION

### 2. Analysis

The next step is the genetic analysis of the virus, with RT-PCR methods, using:

- bKIT for the detection of SARS-CoV-2
- RNase free cartridges
- bCUBE
- bAPP

## RESULTS

The Hyris System for environmental surfaces has an integrated automatic data elaboration AI module which allows an immediate and simple interpretation of results on the bAPP.  
The obtained data are available and remotely accessible anywhere, anytime on the cloud.



# Hyris System

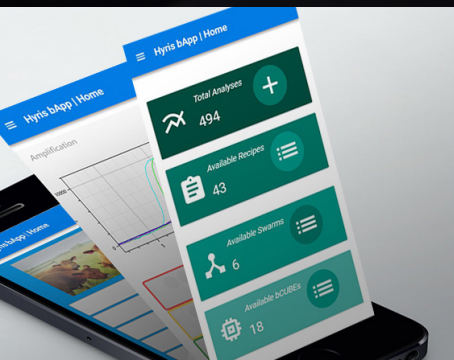
Hyris developed the Hyris System which, taking advantage of Hyris platform and its workflow, enables safe and accurate on-site testing of the SARS-CoV-2 presence on environmental surfaces.



## bCUBE

*Miniaturized device for the analysis of nucleic acids.  
It allows users to run Real Time PCR analyses.*

- Portable
- Rapid DNA/RNA analysis
- Real-time PCR and isothermal protocols
- Performance comparable or better than other commercially available RT-PCR instruments
- No installation required
- No skilled operator required



## bAPP

*Hyris web app software,  
working on all the major operating systems.*

- Intuitive
- No installation needed
- PC/Mac/Mobile
- Remote control of multiple bCUBEs
- Automatic results interpretation
- Cloud based support

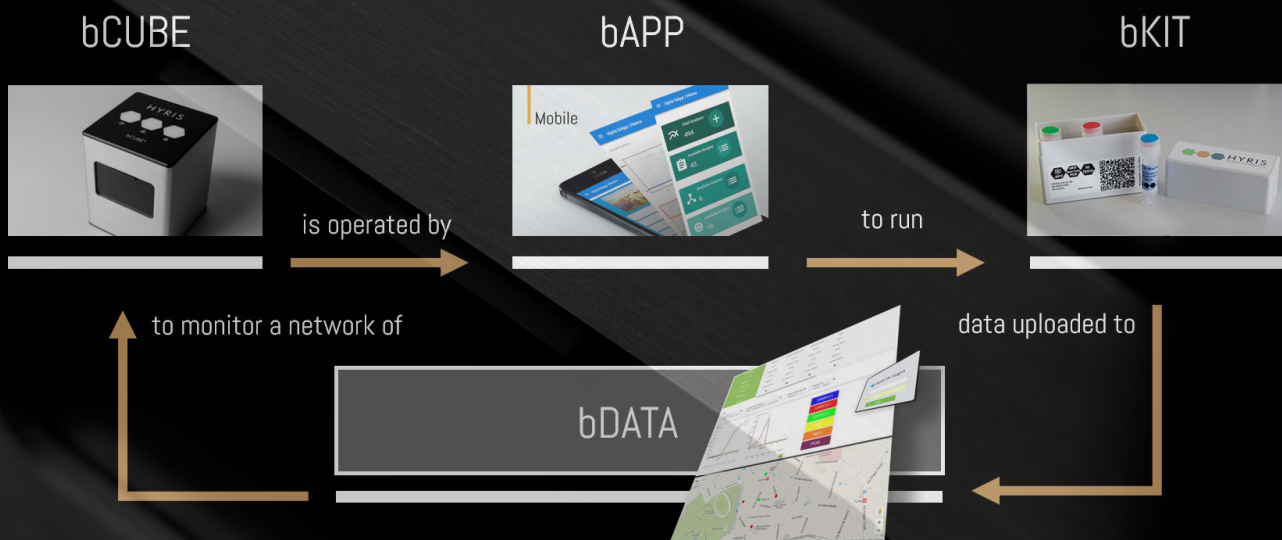


## bKIT

*For SARS-CoV-2 Environmental testing: reagent set developed specifically to test environmental surfaces samples, including all the required reagents and consumables to perform the test.*

- Ready to use
- Specific genetic recognition of Pathogens
- Automatic protocol setup with QR code
- Tested and validated

## Workflow



# bKIT – FOR RESEARCH USE ONLY (RUO), NOT FOR HUMAN DIAGNOSTIC

## SARS-CoV-2 Environmental bKIT - P/N bKTE-SCV2.01

- Direct amplification without sample preparation
- Up to 24 samples with 1 bKIT
- Up to 6 samples simultaneously
- Positive samples results in less than an hour, negative ones up to about 1.5 Hours
- Real-Time PCR reaction
- QR code to load the analysis protocol

Hyris Ltd manufactures a molecular test for the detection of SARS-CoV-2 on environmental surfaces. The assay follows the specifications, including primer sequences, described and validated by the CDC and listed by WHO (links below).

## bKIT Reliability

- Validated on bCUBE
- Positive and negative controls included
- Internal Control to avoid false negative results
- Successful detection of SARS-CoV-2 on surfaces with and without detergents confirmed for kit reliability.

<https://www.cdc.gov/coronavirus/2019-ncov/lab/rt-pcr-panel-primer-probes.html>

<https://www.cdc.gov/coronavirus/2019-ncov/downloads/rt-pcr-panel-primer-probes.pdf>

[https://www.who.int/docs/default-source/coronaviruse/whoinhouseassays.pdf?sfvrsn=de3a76aa\\_2](https://www.who.int/docs/default-source/coronaviruse/whoinhouseassays.pdf?sfvrsn=de3a76aa_2)

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/laboratory-guidance>

## DISCLAIMERS

**Important Use Information:** The Sars-Cov-2 Environmental bKIT (bKTE-SCV2.01), which is part of the Hyris Virus Finder family, is intended to be used by professionals in commercial settings to detect the presence of SARS-CoV-2 on non-porous hard surfaces and fomites. The Environmental test is a great way to determine whether your company's disinfection procedures are working as you and your company's disinfection protocol intend. Follow the use and storage instructions very carefully to ensure that the results obtained are as accurate as possible. Contamination of surfaces can occur at any point after testing or surface disinfection, so it is critical to use the Hyris Virus Finder System after each disinfection procedure.

**What Can Sars-Cov-2 Environmental bKIT (bKTE-SCV2.01) NOT Do?** The Sars-Cov-2 Environmental bKIT (bKTE-SCV2.01) is NOT intended for use as a human diagnostic. Results obtained from the Sars-Cov-2 Environmental bKIT (bKTE-SCV2.01) cannot be extrapolated from one surface, substance, or location to another surface, substance, or location. The choice of specific surfaces, substances, or locations to be tested, as well as the frequency of testing, is to be determined by the user's protocol. The Hyris Virus Finder System does not make any representations or recommendations concerning which surfaces, substances, or locations should be tested, or how often testing should be performed. The User must follow all applicable local, state/provincial, and/or national regulations regarding Covid-19 and wear appropriate protective equipment while performing the test. If a surface is found to be contaminated, you must follow your company's disinfection protocol regarding additional disinfection.

**Limitations:** The HYRIS System can only detect the presence of the SARS-CoV-2 virus within its detection limit and pursuant to its specifications. As such, even if HYRIS System does not detect the presence of SARS-CoV-2 virus, there is a chance that the virus may be present on surfaces. While the chance of COVID-19 transmission may be reduced in such instance, a negative result from the HYRIS System does not guarantee whether a person in contact with a surface may or may not develop COVID-19, and the HYRIS System should not be used to assess the likelihood of developing COVID-19 or for any medical or clinical decision. Please consult with a qualified medical professional if you have any questions regarding COVID-19 in humans or if a person is suspected of having or experiences any symptoms of COVID-19. The HYRIS System, including its component parts and reagents, is not intended for any medical or clinical purpose, and the results should not be used or relied upon for any medical or clinical decision and do not constitute medical advice. If user has any medical questions, please consult with a medical professional. All claims are based on current evidence on COVID-19 and its transmission through surfaces, which may change as scientists and researchers learn more about the virus. Please consult with the latest CDC and WHO guidelines and recommendations regarding the spread of COVID-19 from surface contamination as well as cleaning/disinfecting recommendations for surfaces. The HYRIS System and its reagents are optimized for detection of the SARS-CoV-2 virus based on current sequences published by the CDC and WHO. To the extent the virus mutates or evolves, we cannot guarantee the results will remain accurate or that the HYRIS System will continue to be effective in detecting the virus.



*Hyris is an innovation based company founded in 2014 by an entrepreneurial team with deep experience in biotechnology, electronics and the tech business. The company offers its partners and clients disruptive technologies that enable genetic testing of biological sample in any setting, at any time, all available in real time on dedicated software platforms.*

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**[www.hyris.net](http://www.hyris.net)**