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Pipeline COVID-19 diagnostic and screening solutions

PRODUCT NAME	COMPANY / UNIVERSITY / NAME	DEVELOPMENT PARTNER	APPLICATION(S)	DESCRIPTION	TIME TO RESULT	SPECIMEN
3D Printed COVID-19 Sensor	Carnegie Mellon University	University of Pittsburgh Medical Center; University of Pittsburgh	Antibody Detection	It utilizes 3D printed technology with gold micropillar electrodes for providing a larger surface area for electrochemical reaction. A very small drop of blood from a fingertip is placed on the sensor, which triggers an electrochemical reaction that detects spike S1 protein and receptor binding domain (RBD), two COVID-19 antibodies. The 3D printed sensor is embedded into a simple handheld microfluidic device, which is connected to a smartphone through an easy-to-use interface.	10 sec	Blood
3D-Printed Nasal Swabs	University of Nebraska		Sample Collection	New type of nasal swab made up of polyethylene terephthalate glycol filament, a food-grade plastic material, and produced using a filament-based 3D-printer.	-	Nasal swab
QIArearch SARS-CoV-2 Antigen Test	Qiagen NV	Ellume Ltd	Antigen Detection	Rapid portable test that detects the presence of SARS-CoV-2 antigens specific to coronavirus in patients with active infection. It is performed on eHub instrument and uses estick system (using of nanoparticle fluorescent detection technology to flag the SARS-CoV-2 nucleocapsid protein). It allows testing up to eight patients simultaneously.	2-15 min	Nasal swab
Automated Multiplex Diagnostic System - Respiratory Infectious Disease	Hong Kong Polytechnic University		Nucleic Acid Detection	Fully automated point-of-care genetic testing system that detects 30 to 40 infectious respiratory pathogens, including SARS-CoV, MERS-CoV and novel coronavirus 2019-nCoV genes. The system is fully automated from sample nucleic acid extraction and amplification, to signal detection and analysis. The System adopts patent-pending microfluidic and biochemical technologies that achieve ultra-sensitive detection (down to 5 gene copies) and simultaneous differentiation of various pathogens with extremely high specificity.	< 1 h	-

BLI-ISA Assay - COVID-19	University of California Santa Cruz		Antibody Detection	Biolayer Interferometry Immunosorbent Assay (BLI-ISA Assay) is designed for the quantitative detection of antibodies using fiber-optical biosensor. BLI is a fiber optics-based biophysical technique designed to measure the affinity between biological molecules. White light is shone down a fiber optic biosensor and the interference between light reflected off two layers—a reference layer and a biological layer—is measured. Binding of molecules to the biosensor surface results in a real-time signal due to the shift in the wavelength of the reflected light.	< 20 min	Blood and Serum
Clip COVID Rapid Antigen Test	Luminostics Inc	Sanofi	Antigen Detection	Smartphone-based rapid lateral flow immunoluminescent assay designed to quantitatively detect nucleocapsid protein antigen specific to novel coronavirus (2019-nCoV). It comprises of a cartridge and a Clip analyzer and it utilizes monoclonal antibodies (mAbs) specific to SARS-CoV-2 antigens as diagnostic reagents. After the addition of the sample into the cartridge, an iOS/Android app (Clip COVID App) runs the test and the result is displayed on the smartphone screen.	30 min	Nasopharyngeal /Nasal swabs, Nasal aspirate, Saliva and Sputum
Coronavirus (COVID-19) Sure-track Test	PrivaPath Diagnostics Ltd		Nucleic Acid Detection	Home collection kit for detection of viral RNA. After a customer self-collects a swab sample, the collection swab is placed in a special transport tube containing a solution that deactivates the virus. The test-kit comes with a UPS next day air return shipping label to send the sample back to the lab for RT-PCR/TMA analysis.	24 h	Nasal swab
COVID-19 RNA Test	University of Birmingham		Nucleic Acid Detection	Reverse Transcriptase Free Exponential Amplification Reaction technique (RTF-EXPAR): novel single-step approach for converting viral RNA into DNA combined with Exponential Amplification Reaction (EXPAR), which increases DNA concentration to detectable levels. The method uses a DNA sequence (Binder DNA) that binds to SARS-CoV-2 viral RNA and an enzyme (BstNI) that recognizes the Binder DNA and cuts a short section from it when viral RNA is present. Once this cleavage has occurred, the viral RNA is free to bind to more Binder DNA and the cycle is repeated. The test detects the output of this cycle.	5 min	-
CoviTact	ViroTact		Virus-encoded Protease Detection	Rapid, point-of-care test to detect the presence of virus-encoded protease specific to SARS-CoV-2, performed on the ViroTact Platform: ViroTact® near-infrared quenched substrate is added to the collected sample and if the essential virus-encoded protease is present, near-infrared light is emitted, which can be detected on a handheld near-infrared detector.	30 sec	Sputum, Saliva and Nasal swab
Diagnostic Test - COVID-19	The University of Manchester	University of Surrey	Lipid Levels Detection	Detects the lipid levels by using liquid chromatography mass spectrometry. Patients with positive COVID-19 test have lower lipid levels than their counterparts with a negative test.	-	Sebum

Diagnostic Test - COVID-19	Gladstone Institutes	University of California San Francisco	Nucleic Acid Detection	Point of care rapid CRISPR-based assay to detect the presence of RNA specific to SARS-CoV2 by combining it with a mobile phone camera. This assay does not require pre-amplification of the viral genome for detection. The fluorescence is measured with a mobile phone camera in a compact device that includes low-cost laser illumination and collection optics.	15-30 min	Nasal swab
Diagnostic Test - COVID-19	Charite University Hospital of Berlin	The Francis Crick Institute Ltd	Severity Prediction	Mass spectrometry-based test to detect the levels of protein biomarker signatures that vary in quantity depending on disease severity. The test can be used for disease prognosis and/or as an in-hospital diagnostic test, which could provide clarity regarding a patient's condition.	N/S	Blood and Plasma
Project Gumnuts	Achiko AG	Regenacellx SL	Antigen Detection	Point of care test to detect spike protein of Covid-19 by using DNA aptamers and gold nanoparticles. The test is intended to be used with their mobile app Teman Sehat (Health Buddy), to deliver a mobile telehealth and digital passporting service. Sensitivity: 91% Specificity: 85%	< 1 h	Sasopharyngeal swabs and Saliva
Digid Cantisense SARS-CoV-2 Test	Digital Diagnostics AG		Antigen Detection	Biosensor test based on cantilevers that detects the virus presence. The extremely thin silicon cantilevers are integrated onto a microchip and are coated with a capture layer of antibodies that bind to the virus. This binding changes the surface tension and cause mechanical bending of the cantilevers, which generates an electrical signal on the chip.	5 min	Throat swab
Dublin-Boston Score	Royal College of Surgeons Ireland	Harvard University;Beaumont Hospital; Brigham and Women's Hospital	Severity Prediction	Predicts the severity of the infection at day 7 by measuring, in the first 4 days, the levels of interleukins (IL)-6 (pro-inflammatory) and interleukins (IL)-10 (anti-inflammatory) and calculating their ratio.	N/S	Blood
EpiSwitch® COVID-19 Severity Test (CST)	Oxford Biodynamics Plc		Severity Prediction	Detects the presence of 3D genomic biomarkers to assess immune health and therefore predict the likely severity of an individual's COVID-19 response ahead of infection.	48-72 h	Blood
Genedrive SARS-CoV-2 POC Kit - Version 2	genedrive plc		Nucleic Acid Detection	Point-of-care test to detect the presence of SARS-CoV-2. It features one-step freeze-dried PCR bead format that eliminates the need for the time consuming and error-prone reagent preparation and also displays the interpreted data as 'Positive' or 'Negative' in a graphical user interface. It is performed on Genedrive instrument.	15-20 min	Saliva
IM2	National University of Singapore		Sample Collection	Injection molded 3D-printed nasopharyngeal swab designed to facilitate the collection of samples.	-	Nasopharyngeal swab

Integrated Device - COVID-19	University of Oxford	John Radcliffe Hospital	Viral Detection	Differentiates SARS-CoV-2 from negative clinical samples as well as from other common respiratory pathogens. The method starts with the rapid labelling of virus particles in the sample with short fluorescent DNA strands. Then, a microscope is used to collect images of the sample and Machine-learning software quickly and automatically identifies the virus present in the sample.	< 5 min	Throat swab
Lab-on-a-Chip Device	University of Michigan	Hackensack Meridian Health	Antibody Detection	Microfluidic ELISA device, or "lab on a chip," to quantitatively detect the presence and amount of neutralizing immunoglobulin antibodies. The machine can be the size of a microwave, and can test multiple simultaneous samples of little more than a drop of blood from a fingertip.	15 min	Blood and convalescent plasma
LAMP Test - COVID-19	Karolinska Institute	Huazhong University of Science & Technology;Shenyang University of Chemical Technology	Nucleic Acid Detection	Rapid, point-of-care test to detect the presence of viral RNA gene sequence specific to SARS-CoV-2 using colorimetric change. They adapted a technique called loop-mediated isothermal amplification (LAMP) specifically for the new coronavirus and combined it with a pH-indicator, which changes the color of the reaction mix from pink (alkaline) to yellow (acidic) if the sample is positive for SARS-CoV-2.	20-40 min	-
Multitest	Selfdiagnostics OU		Nucleic Acid Detection	Mobile molecular, point of care diagnostic, isothermal PCR-based test to detect the simultaneously presence of nucleic acid specific to novel coronavirus or influenza. It is based on NINAAT (Non-Instrumented Nucleic Acid Amplification) Technology.	<30 min	Nasal swab or Saliva
Nu.Q COVID-19 Triage Test	VolitionRX Ltd		Severity Prediction	It measures the levels of Neutrophil Extracellular Traps (NETs) to predict the progression of SARS-CoV-2 pneumonia and complications including Acute Respiratory Distress Syndrome (ARDS). SARS and pneumonia are associated with an inappropriate hyperimmune response to the virus involving massive ejection of NETs into the blood by white blood cells.	N/S	Blood
Panbio COVID-19 IgG/IgM Rapid Test Device	Abbott Laboratories		Antibody Detection	Lab-based, point of care test for qualitative detection of IgG and IgM antibodies specific to SARS-CoV-2. The results are displayed through red lines in the respective places - C line (for Control), M line (for IgM) and G line (for IgG).	10-20 min	Serum, Plasma, Venous and Capillary whole blood
Paper-Based Electrochemical Sensor	University of Illinois		Nucleic Acid Detection	Detect the presence of SARS-CoV-2 viral RNA using graphene-based electrochemical biosensor. It consists of a platform to measure an electrical read-out and probes to detect the presence of viral RNA. In the platform, filter paper is coated with a layer of graphene nanoplatelets and a gold electrode is placed on top as a contact pad for electrical readout. Antisense oligonucleotides capped with gold nanoparticles are used to target viral RNA, which causes a change in the sensor electrical response.	< 5 min	Nasal and Saliva swabs
Python Swab	National University of Singapore		Sample Collection	Injection molded 3D-printed nasopharyngeal swab designed to facilitate the collection.	-	Nasopharyngeal swab

Rapid COVID-19 Test Kit	Nanyang Technological University		Nucleic Acid Detection	Uses the PCR method but removes the need for RNA purification. Instead, a biochemical mix of crude sample and inhibitor-resistant enzymes and reagents targeting compounds that obstruct RNA amplification are used and placed into a single tube, which is inserted into a laboratory thermocycler to amplify genetic material in PCR. The test can detect variants of the virus.	36 min	N/S
Rapid Diagnostic Test - COVID-19	Atomo Diagnostics Ltd		Antibody Detection	Detects the presence of antibodies (IgG/IgM) specific to SARS-CoV-2. It is performed on AtomoRapid Galileo device.	15 min	Blood
Rapid Diagnostic Test - SARS-CoV-2	Technion Israel Institute of Technology	Rambam Health Care Campus;Meir Medical Center	Viral Detection	For the test, it is only needed to immerse the sample in a test tube that contains the reactive material and then in the thermal cup with hot water. If the color of the reaction changes, that indicates the presence of the coronavirus.	< 1 h	Saliva
Rapid Duplex Test	Iceni Diagnostics Ltd	University of Warwick	Glycan Detection	Detects the presence of glycan specific to SARS-CoV-2 and influenza. Cells in the respiratory tract are covered in a coat of sugar chains, known as glycans, and viruses can utilize these glycans as part of the infection process.	< 20 min	Saliva or Nasal fluids
Rapid Point-of-Care COVID-19 Test	Llusern Scientific Ltd	University of South Wales	Nucleic Acid Detection	Detects the presence of SARS-COV-2 virus using the loop-mediated isothermal amplification of DNA (LAMP) technology, and the results are processed by an electronic reader device.	20-30 min	Saliva and Nasal swabs
Rhinoswab	Rhinomed Limited		Sample Collection	Nasal swab designed to collect patient's sample from the nose to test for the presence of upper respiratory tract diseases, including influenza and coronavirus strains. It is non-invasive and collects sample from both nostrils simultaneously. It collects a significantly larger sample and should be worn for a predetermined time. It can be self-administered easily and fits into existing vials and work with existing pathology workflows.	-	Nasal swab
RT-LAMP Assay - SARS-CoV-2	Nantong University		Nucleic Acid Detection	Reverse transcriptase loop-mediated isothermal amplification (RT-LAMP) rapid assay to detect the presence of N gene specific to SARS-CoV-2. The results can be monitored using a real-time PCR machine or visualized via colorimetric change from red to yellow.	30-40 min	Nasal and Throat swab
RT-RAA Diagnostic Assay - 2019-nCoV	Beijing Ditan Hospital		Nucleic Acid Detection	Real-Time Reverse-Transcription Recombinase Aided Amplification (RT-RAA) Diagnostic Assay is a rapid isothermal nucleic acid amplification assay designed to detect the presence of recombinant plasmids containing conserved ORF1ab genes specific to SARS-CoV-2. It is performed using a portable real-time fluorescence detector.	30 min	Nasal swab, Oral swab, Bronchoalveolar-lavage fluid, Urea, Blood and Fecal
SARS-CoV-2 Antibody Biosensor	GBS Inc	Johns Hopkins University	Antibody Detection	Printable organic thin-film transistor "strip" (Biosensor Platform technology) with a specialized nanomaterial gel-like coating that allows the detection of IgM and/or IgG antibodies.	N/S	Saliva

SARS-CoV-2 ELISA Test	Boston University		Antibody Detection	Detects the presence of IgA, IgG and IgM antibodies specific to COVID-19. The ELISA method is slightly changed to improve detection of all proteins measured by the technique: instead of washing the plates in a machine, an operator washes the plates and performs specific steps to be sure each well of the plate is washed thoroughly and there is no cross-contamination of liquid between wells.	N/S	Blood
SARS-CoV-2 IgG/IgM Diagnostic Test	Monash University	Bioresource Processing Institute of Australia	Antibody Detection	Point of care agglutination assay to detect the presence of IgG/IgM antibodies specific to SARS-CoV-2. They designed an antibody-peptide bioconjugate, synthesized in a two-step chemical process, to agglutinate red cells in the presence of SARS-CoV-2 antibodies only. The results are visible to the naked eye as a red line above the gel media.	20 min	Blood plasma and Serum
TaqCheck SARS-CoV-2 Fast PCR Assay	Thermo Fisher Scientific Inc		Nucleic Acid Detection	Fast RT-PCR assay for the qualitative detection and characterization of target two different viral genomic regions (S and N genes) and mutations and RNase P RPP30 gene to help assess sample adequacy. It reduces thermocycling time by one-third.	N/S	Saliva
TestNPass	Graphael SAS		Antigen Detection	Single-use test using a graphene biosensor sensitized by antibodies recognizing the virus's S protein. The test operates without a battery and uses contactless near-field communication via a smartphone application.	5 min	Saliva
Allplex SARS-CoV-2 Variants I Assay	Seegene Inc		Nucleic Acid Detection	PCR, mutant identification test to identify major genetic variations that have originated multiple SARS-CoV-2 mutant variations, as well as pre-screen a suspicious new variant. It is based on mTOCE technology, designed to detect a target specific spot where mutation occurs, enabling precise detection and differentiation of the coronavirus as well as its mutated versions with a single tube of reagent.	2 h	Sputum, Nasopharyngeal swab and aspirate, Bronchoalveolar lavage, Oropharyngeal swab and Saliva
BELMONITOR COV-2	Pharmact AG		Antigen Detection	Mouthwash based rapid point of care test to detect the presence of antigens specific to Covid-19. It is performed by combining the throat and mouth lavage with a nasal swab. A solution of genetically engineered binding proteins is added, and a specific color reaction indicates infection with SARS-CoV-2.	N/S	Saliva and Nasal swab
BioSure COVID-19 Antibody Self-Test	BioSure (UK) Ltd	Mologic Ltd	Antibody Detection	Barrel device for the qualitative detection of IgG antibodies specific to SARS-CoV-2 that can be self-used. Sensitivity: 98.3% Specificity: 98.8%	10 min	Blood
Blood Test - COVID-19	Nightingale Health Ltd		Severity Prediction	Finger prick blood test detects the presence of 25 novel blood biomarkers specific to COVID-19 disease. It acts as risk markers for developing severe COVID-19 infection before contracting the virus.	N/S	Blood
Desktop Testing Device - COVID-19	Qurin Diagnostics BV	Surfix BV;LioniX International BV	Viral Detection	Photonic biochip-based device to detect the presence of SARS-CoV-2 using silicon nitride-based integrated optics technology.	5 min	N/S

Diagnostic Test Kit - COVID-19	Medpromresurs		Nucleic Acid Detection	Detects the presence of SARS-CoV-2. It is based on SmartAmp Technology, which allows simple assay design and minimum number of stages in assays. It is cost-effective due to stable temperature and obtains the result at the amplification stage.	N/S	N/S
EBX-044	Eurobio Scientific SA		Nucleic Acid Detection	Real-time multiplex PCR test for the detection and typing of different variants of the SARS-CoV-2 coronavirus. It allows the detection and screening in two PCR wells of the four currently predominant variants: British, South African, Brazilian and Japanese-Brazilian.	N/S	N/S
ender MOBILE	Ender Diagnostics AG		Nucleic Acid Detection	Mobile point-of-care test for acute COVID-19 cases. It detects the presence of SARS-CoV-2 viral RNA and it is running on a portable decentralized isothermal PCR device.	30 min	Nasopharyngeal swab
Four-In-One Test Kit	Abacus Diagnostica Ltd		Viral Detection	Detects the presence of Influenza A, Influenza B, RSV, and SARS-CoV-2 viruses. It is based on GenomEra Technology, which combines a rapid assay principle employing time Resolved Fluorescence detection with a simple-to-use reagent concept on a low-cost plastic test chip.	N/S	N/S
GNA Octea SARS-Cov-2 test kit	GNA Biosolutions GmbH		Nucleic Acid Detection	Portable diagnostic device, comprised of an instrument and disposable 8-well chips, to detect the presence of SARS-CoV-2. The Pulse Controlled Amplification (PCA) technology used is based on ultrafast amplification cycles driven by short electrical pulses.	15-20 min	N/S
GSD NovaPrime SARS-CoV-2 Mplex FLA (Sanger) Kit	Eurofins Scientific SE		Nucleic Acid Detection	Detects the presence of two n-gene fragments (N1 & N2) specific to SARS-CoV-2 virus. Its multiplex reactions include a human housekeeping gene as an intrinsic control in RNA extracted from sample. It utilizes Fragment Length Analysis principle on Sanger sequencing instruments.	N/S	Nasopharyngeal swab
GSD NovaType II SARS-CoV-2 Kit	Gold Standard Diagnostics, Inc.	Eurofins Technologies Kft	Nucleic Acid Detection	Detects the presence of new COVID-19 UK, South Africa, and Brazil variants. It allows parallel discrimination between S gene wildtype and mutations N501Y, E484K, and K417N, with MGBEQ Quencher. The kit contains RT-PCR Enzyme Mix, Primer-Probe-Mix, RNase P Internal Positive Control.	< 2 h	Nasal, Nasopharyngeal, Oropharyngeal, BAL, Pharynx gargle
Logix Smart COVID-19 Test	Co-Diagnostics Inc	Promega Corp	Nucleic Acid Detection	PCR screening test to qualitatively detect RNA from SARS-CoV-2 by using CoPrimer Technology, which uses coprimers to enhance the output of real-time PCR tests. The technology helps in the virtual elimination of primer-dimer, the principal source of false positives. It can also be used to detect the presence of SARS-CoV-2 in the cancer tissue.	< 2 h	Lower and upper respiratory tract fluids
PATHLOCK	Statens Serum Institut		Nucleic Acid Detection	Point of care kit for rapid detection of COVID-19 based on CRISPR-Cas13 technology. CRIPR-Cas13 recognizes the SARS-CoV-2 RNA and generate a signal when it has been cut.	1 h	N/S
PATHPOD	Statens Serum Institut		Nucleic Acid Detection	Portable lab-on-a-chip cartridge instrument to detect COVID-19. The system is based on LAMP technology and processes up to 10 samples in a single run. The results are displayed on a computer or tablet.	15 min	N/S

PCR ONE System - SARS-CoV-2 Panel	Curiosity Diagnostics		Nucleic Acid Detection	Point of care test to detect SARS-CoV-2 RNA, performed on PCR ONE System. This ultra-fast PCR technology system consists of analyzer and disposable cartridges and allows for 40 cycles of real-time PCR in 7 minutes.	15 min	N/S
QIAprep& Viral RNA UM Kit	Qiagen NV		Nucleic Acid Detection	Combines a liquid-based sample preparation step, completed in only two minutes, with real-time PCR detection in a streamlined workflow. It reduces plastic usage by using only three small pipette tips needed per sample and it is compatible with standard lab automation equipment, any assay and transport media.	< 1 h	Nasal, Oro and Nasopharyngeal swab
Rapid COVID-19 Diagnostic Test	AegirBio AB		Antibody Detection & Severity Prediction Test	Based on a lateral flow assay, the test uses a drop of blood and it can measure both COVID-19 antibody and person's ability to manage the viral load.	5 min	Blood and Saliva
RapiPrep COVID-19 Test	MicrosensDx Ltd		Nucleic Acid Detection	Rapid point of care device to detect the presence of RNA from the SARS-Cov-2 virus. The test uses a magnetic particle viral RNA preparation step optimized to work with the built-in LAMP detection method, which ensures a very efficient capture to give the highest possible detection sensitivity.	< 25 min	Throat, Nasal, and Sputum
SARS-CoV-2 Multiantigen IgG+IgA+IgM Kit	Immunostep S.L		Antibody Detection	Multiplexed bead-based assay to detect the presence of IgG, IgA and IgM against the SARS-CoV-2 spike, nucleocapsid, MPRO/3CLPRO protein and RBD domain.	N/S	Serum and Plasma
ZEKNANO	Zenum Technologies Inc		Antibody Detection & Severity Prediction Test	Portable device to detect the presence of IgG and IgM antibodies by measuring the induction of an immune response using nanofluidic technology. It uses artificial intelligence to increase the test's efficiency and study any mutation of the virus. It is also used for diagnosing other infectious diseases including Influenza A, Influenza B, respiratory allergic infections.	5 min	Blood
CareStart COVID-19 Antigen Test	Access Bio Inc		Antigen Detection	Lateral flow immunochromatographic assay for the qualitative detection of the nucleocapsid protein antigen from SARS-CoV-2. Results are indicated by the presence of colored lines in the control line region "C" and test line region "T".	10 min	Nasopharyngeal swab or anterior nasal swab
Covid-ID Lab	XPhyto Therapeutics Corp	3a-Diagnostics GmbH	Nucleic Acid Detection	Self-administered, disposable, RT-PCR based multiplex viral RNA probe kit to detect the presence of SARS-CoV-2 RNA, that does not require prior RNA extraction as part of the sample preparation.	25 min	Throat, Nasal swabs and Saliva
ZIP-CoVx Assay	ZIP Diagnostics Pty Ltd		Nucleic Acid Detection	Portable, point of care, PCR test to detect the presence of viral RNA specific to the SARS-CoV-2 virus. It is highly specific and is not cross-reactive with other circulating coronaviruses and other respiratory infections.	15-30 min	Respiratory swab
AcuVid Rapid Saliva-Based Antigen Test	Therma Bright Inc	Orpheus Medical Ltd;Safetest Comercio de Diagnosticos Ltd	Antigen Detection	It uses lateral flow technology and it is able to detect Brazilian P.1 and P.2 and the UK B.1.1.7 variants.	20 min	Saliva

Bartels FlexTrans Medium	Trinity Biotech Plc		Sample Preservation	Facilitates suppression of microbial contamination of clinical specimens and stabilization of virus during transport from the point of collection to the testing site.	-	-
QIArearch Anti-SARS-CoV-2 Total Test	Qiagen NV	Ellume Ltd	Antibody Detection	Detects the presence of total Ig, IgM, IgG, IgA antibodies specific to SARS-CoV-2. Built on state-of-the-art nanoparticle fluorescence technology, it is performed on digital eHub and eStick system and it allows testing up to eight patients simultaneously.	10 min	Plasma and Serum
AbC-19™	Abingdon Health Ltd	BBI Solutions OEM Ltd; CIGA Healthcare Ltd; Omega Diagnostics Group Plc; University of Oxford	Antibody Detection	Lateral flow test to detect the presence of IgG neutralizing antibodies specific to the SARS-CoV-2 virus. It creates an antibody certificate via a smartphone app. Sensitivity: 98.03% Specificity: 99.56%	20 min	Whole blood
SARS-CoV-2 Antigen Test	Beckman Coulter Inc		Antigen Detection	Detects the presence of antigens specific to SARS-CoV-2. It is performed on Beckman Coulter immunoassay analyzers, including the UniCel DxI800, DxI600 and Access2 Access Immunoassay Systems. It runs 200 COVID-19 tests in 60 minutes. Price: \$4 per test	15-30 min	Nasopharyngeal swab
AffIDX SARS-CoV-2 Lateral Flow Rapid Antigen Test	Avacta Group Plc	Mologic Ltd	Antigen Detection	Antigen lateral flow test that detects the antigens specific to SARS-CoV-2 virus. It also detects B117 and D614G variants of coronavirus. Sensitivity: 98% Specificity: 99%	N/S	Nasal swab
Affimer-Based BAMS Coronavirus Antigen Test	Avacta Group Plc	Adeptrix Corp; Bruker Corp; Cytiva; Liverpool School of Tropical Medicine	Antigen Detection	Laboratory-based test that detects the presence of antigens specific to the SARS-CoV-2 virus. It is performed on bead-assisted mass spectrometry (BAMS) platform, which combines enrichment of the sample to improve sensitivity with the power of mass-spectrometry to improve specificity.	N/S	Saliva, Nasopharyngeal swab or Serum
Affimer-Based Point-Of-Care Rapid Test - COVID-19	Avacta Group Plc	Cytiva; University of Glasgow	Antigen Detection	Lateral flow test that detects the presence of SARS-COV-2 viral antigen (detached spike protein and the intact virus particle) by using Affimer reagents. It is performed on a point-of-care test strip platform.	N/S	Saliva or anterior nasal swab

Agilent Dako SARS-CoV-2 IgG ELISA Kit	Agilent Technologies Inc		Antibody Detection	Qualitative two-step indirect ELISA for the detection of immunoglobulin G (IgG) antibodies specific to SARS-CoV-2 S1 RBD protein. It also aids in identifying individuals with an adaptive immune response to SARS-CoV-2 indicating recent infection. Sensitivity: 98.9% Specificity: 98.8%	N/S	Serum or Plasma
COVID19 COMPLETE	Genspeed Biotech GmbH		Antibody Detection	A combined antibody/antigen ELISA test that fuses two individual GENSPEED test chips for antibody and antigen testing into a single test chip.	15 min	Whole blood + Nasal or Throat swab
COVID-19 LAMP Assay Test	OptiGene Ltd	Hampshire Hospitals NHS Foundation Trust	Nucleic Acid Detection	Rapid, point-of-care, LAMP assay to detect the presence of SARS-CoV-2 virus. The detection is carried out in a one-step, closed tube format where the reverse transcription and subsequent amplification of the specific target sequence occur in the same reaction well. The Genie® II, III & HT devices detect amplified product in real-time using fluorescence detection.	20 min	Oropharyngeal / Nasopharyngeal swab
COVIDia - Antibody	GaDia SA		Antibody Detection	Point-of-care lateral flow immunoassay (LFIA) for qualitative detection of anti-SARS-CoV-2-IgM and anti-SARS-CoV-2-IgG antibodies in suspected or pneumonitis patients. Sensitivity: 100% Specificity: 93%	10 min	Plasma, Serum, Whole blood
Drager Antigen Test SARS-CoV-2	Dragerwerk AG & Co KGaA		Antigen Detection	Rapid, point of care, lateral flow immunoassay test for qualitative detection of SARS-CoV-2 nucleoprotein.	15-20 min	Nasal swab
GenViro Saliva COVID-19 Swift Kit	PharmaTech Solutions Inc		Viral Detection	Point-of-care test to measure the viral load screening in novel coronavirus infection. It consists of 1 test strip, an interface sleeve adapter, one saliva collection vessel, diluent and package inserts, and it only works with GenViro! Swift Meter.	10.5 sec	Saliva
GenViro Screening COVID-19 Swift Kit	PharmaTech Solutions Inc		Viral Detection	Point of care screening kit to detect the novel coronavirus (COVID-19). It includes GenExpidient (universal biosensor) to clean and disinfect the GenViro meter.	15 sec	Whole blood
GSD NovaPrime RNA Extraction AE1/AE2 Kit	Eurofins NTD LLC		Nucleic Acid Detection	The kit isolates viral RNA using magnetic-bead extraction - specifically validated for use with the KingFisher™ Flex System automation platform. It starts with lysis and inactivation of viral particles, followed by the binding and purification of viral RNA, and ends with elution of RNA from magnetic beads.	N/S	Nasal, Nasopharyngeal and Oropharyngeal swabs
IM3	National University of Singapore		Sample Collection	Injection molded 3D-printed nasopharyngeal swab designed to facilitate the collection of samples.	-	Nasopharyngeal swabs
Isothermal Test - COVID-19	Defence Research and	Israel Defense Research &	Nucleic Acid Detection	Point of care rapid test to identify the presence of coronavirus (COVID-19) using isothermal testing (amplification is achieved using a constant temperature).	30 sec	Saliva

	Development Organisation	Development Directorate				
Next Generation Lateral Flow Test - COVID -19	Novacyt SA		Antibody Detection	Intended for monitoring the effectiveness of COVID-19 vaccine, it detects neutralizing antibodies generated by successful immunization.	10-20 min	N/S
NGS Test - 2019-nCoV	Ares Genetics GmbH	BGI Group	Nucleic Acid Detection	Next-generation sequencing (NGS) test to detect the presence of RNA specific to SARS-CoV-2, based on ARES Technology.	N/S	N/S
Novel Coronavirus (2019- nCoV) IgM/IgG Antibody Detection Kit	Nankai University		Antibody Detection	Detects the presence of IgG and IgM antibodies specific to novel coronavirus.	15 min	Plasma or Serum
Nucleic Acid Assay - COVID-19	Shenzhen Second People's Hospital		Nucleic Acid Detection	RT-PCR amplification-based rapid diagnostic test to detect the presence of CRISPR-cas protein-based nucleic acid sequence specific to COVID-19.	N/S	Nasopharyngeal swabs
Panther Fusion SARS-CoV-2	Hologic Inc		Nucleic Acid Detection	RT-PCR <i>in vitro</i> diagnostic test intended for the qualitative detection of RNA from SARS-CoV-2. It is performed on Panther Fusion System that compares the fluorescence signal to a predetermined cut-off. The Panther Fusion SARS-CoV-2 assay involves the following steps: sample lysis, nucleic acid capture, elution transfer, and multiplex RT-PCR when analytes are simultaneously amplified and detected.	N/S	Nasopharyngeal , nasal, mid-turbinate, and oropharyngeal swab, nasopharyngeal wash/aspirates or nasal wash and bronchoalveolar lavage
Point of Care Test - SARS-CoV-2	BioPorto Diagnostics AS	University of Southern Denmark	Antigen Detection	Detects SARS-COV-2 by using novel antibodies highly specific to the virus's spike protein with gRAD (Generic Rapid Assay Device) technology for the development of lateral flow assays.	10 min	Saliva or Pharyngeal swab
Point-Of-Care Test - COVID-19	Mologic Ltd	Dakar Pasteur Institute	Antibody Detection	Lateral flow antibody test to detect the presence of IgG and IgM antibodies specific to novel coronavirus.	10 min	N/S
Polyamino Acid Test - COVID-19	Defence Research and Development Organisation	Israel Defense Research & Development Directorate	Viral Detection	Poly-amino acids that Isolate proteins related to coronavirus (COVID-19).	30 sec	Saliva
Portable Test Kit - COVID-19	University of East Anglia		Nucleic Acid Detection	Molecular test to sequence RNA by using a rapid three minute RNA extraction (Arcis Biotechnology)	50 min	Throat swab
PrimeTime SARS-CoV-2/Flu Test	Integrated DNA Technologies Inc		Nucleic Acid Detection	Multiplex RT-qPCR test for detection of SARS-CoV-2, influenza A, and influenza B viruses. The test includes primers, probes, master mix, dilution buffer, and controls.	N/S	N/S

Prognostic Test - COVID-19	Charite University Hospital of Berlin	The Francis Crick Institute Ltd	Severity Prediction Test	Mass spectrometry-based test to detect the levels of protein biomarker signatures specific to novel coronavirus infection.	N/S	Plasma, Whole blood
Rapid IgM-IgG Combined Antibody Test - SARS-CoV-2	Guangzhou Medical University	Nanjing University of Chinese Medicine;Huaz hong University of Science & Technology	Antibody Detection	Point-of-care lateral flow immunoassay to detect the presence of IgM and IgG antibodies specific to SARS-CoV-2. The main body of the test strip consist of five parts, including plastic backing, sample pad, conjugate pad, absorbent pad and nitrocellulose membrane. Sensitivity: 88.66% Specificity: 90.63%	15 min	Whole blood
ReSARS Cov-2 IgG/IgM/IgA ELISA Kit	Zalgen Labs LLC	Tulane University	Antibody Detection	ELISA kit for semi-quantitative detection of IgG/IgM/IgA antibodies to SARS-CoV-2. The assay detects antibody bound to immobilized antigen mixture in microwells. Color develops in the wells at an intensity proportional to the concentration of anti-SARS-CoV-2 IgG/IgM/IgA antibody in the sample.	N/S	N/S
SARS-CoV-2 Saliva Test	QuantuMDx Group Ltd		Nucleic Acid Detection	RT-PCR test that has been developed using advanced bioinformatics to maximize performance. The sensitive test targets three SARS-CoV-2 genomic loci; the S, N and Orf1 genes and can run on multiple high- and low-throughput PCR platforms that can be calibrated for the fluorophores FAM and HEX.	70 min	Saliva
Serological ELISA Test - COVID-19	Biomerica Inc	Mount Sinai Medical Center	Antibody Detection	ELISA lab-based serology blood test for the detection of IgG antibodies specific to SARS-CoV-2 virus. It uses a modified, trimeric spike protein from the SARS-CoV-2 virus.	N/S	Whole blood
Serum Antibody Rapid Test - COVID-19	Abnova Corp	Labospace Srl	Antibody Detection	Point-of-care lateral flow chromatography immunoassay to detect the presence of IgM/IgG antibodies specific to SARS-CoV-2. During testing, the blood sample firstly interacts with COVID-19 protein antigens labeled gold nanoparticles in the Sample Zone. By capillary action, the mixed sample flows across the membrane strip. Human antibodies interact with the anti-human antibodies coated in the Result Zone showing a visible colored line.	15 min	Plasma, Serum, Whole blood
Two-Step COVID-19 Test	University of Vermont	University of Washington	Nucleic Acid Detection	The method for the test omits the step in the widely used RT-PCR test where the scarce reagents are needed. It takes a sample of the medium that held the nasal swab and goes directly to the third, amplification step. Sensitivity: 92% Specificity: 100%	N/S	Nasal swab
Actim ELISA SARS-CoV-2 IgG	Oy Medix Biochemica Ab		Antibody Detection	ELISA assay to detect a recent COVID-19 infection by quantitatively recognizing specific IgG antibodies produced against the spike glycoprotein S1 (S1 protein) present on the surface of the SARS-CoV-2 virus. Sensitivity: 96% Specificity: 98%	< 2 h	Plasma and Serum

Acu-Corona 2.0/3.0 SARS-CoV-2 Real-Time PCR Kit	BIOTECON Diagnostics GmbH		Nucleic Acid Detection	One-step RT-PCR that targets the SARS-CoV-2 specific RNA dependent RNA polymerase (RdRp) gene. It features magnetic bead technology for the isolation of highly purified RNA/DNA using the Magnetic Preparation Kit.	< 1.5h	Nasopharyngeal or Oropharyngeal, Sputum and Bronchoalveolar lavage fluid
AVA IVD Device	Attana AB		Antibody Detection	Attana Virus Analytics (AVA) platform, an <i>in vitro</i> diagnostics (IVD) tool. The biosensor instrument detects and measures SARS-CoV-2 IgG antibodies.	N/S	Serum, Whole blood
DiagnoSure COVID-19 IgG/ IgM Rapid Test Cassette	Grit Overseas Pte Ltd		Antibody Detection	Lateral flow immunoassay intended for the qualitative detection and differentiation of IgM and IgG antibodies to SARS-CoV-2. Positive results are showed with a colored band.	10 min	Plasma, Serum, Whole blood
Direct-To-PCR Extraction Device	PrimerDesign Ltd		Nucleic Acid Extraction	Facilitates nucleic acid extraction from patient's sample for the diagnosis of novel corona virus infection. This removes the need for some scarce reagents and significantly reduces the number of extraction steps, allowing faster cycle times, higher throughputs and cost savings.	-	-
Fortitude SARS-CoV-2 & FluA/B Test	MiRXES Pte Ltd	Agency for Science, Technology and Research; Tan Tock Seng Hospital	Nucleic Acid Detection	Real-time RT-PCR for the qualitative detection of RNA from SARS-CoV-2, influenza A, and influenza B.	~2h 30min	Nasopharyngeal swabs, Oropharyngeal swabs, Nasopharyngeal wash, Aspirate, Nasal wash, anterior and mid-turbinate nasal swabs
Novel Coronavirus (COVID-19) Nucleic Acid Test Kit (RT-LAMP)	Changzhou Biowin Pharmaceutical Co Ltd		Nucleic Acid Detection	Portable RT-LAMP nucleic acid test kit to detect the presence of nucleic acids specific to COVID-19, and it is designed for individual use at home or in the office. It is composed of two main parts: self-sampling technology and nucleic acid testing instrument.	30 min	N/S
Rapid Test - COVID-19	VTT Technical Research Centre of Finland Ltd	Meilahti Vaccine Research Center; University of Helsinki	Antigen Detection	Detection of viral antigens for the COVID-19-virus. The test is designed to be performed by health care personnel.	15 min	Nasopharyngeal swab
S-CoV-2 Detect IgM/IgG Rapid Test	InBios International Inc		Antibody Detection	Detects the presence of IgG and IgM antibodies specific to SARS-CoV-2 virus. Sensitivity: 97.8% Specificity: 98.9%	150 min	Plasma, Serum, Whole blood

virusproof SL SARS-CoV-2 Real-time PCR Kit	BIOTECON Diagnostics GmbH		Nucleic Acid Detection	One-step real-time PCR assay to qualitatively detect the presence of E gene specific to betacoronavirus and RdRp gene specific to SARS-CoV-2 virus.	135 min	Nasopharyngeal or oropharyngeal swabs, sputum and bronchoalveolar lavage fluid
iAMP4COV-19	FUELIUM		Nucleic Acid Detection	iAMP COVID-19 test is a fast, instrument-free, fully disposable, cost-effective and easily deployable test that relies on molecular detection and not on antigen recognition. With the sensitivity and specificity of the molecular assays, iAMP COVID-19 addresses SARS-Cov-2 detection challenges that are not solved by the current solutions, such as long sample-to-result time and use of centralized and expensive equipment involved in RT-PCR, as well as the lack of accuracy that leads to false negatives when SARS-CoV-2 viral load is low when using antigen tests.	30 min	Nasopharyngeal swabs
APTAKIT	Lincbiotech		Antigen Detection	Rapid lateral flow chromatography test for SARS-CoV-2 detection in human and animal samples, using new high-affinity aptamers to the Spike and Nucleocapsid protein developed by Lincbiotech.	15 min	Nasal swabs and Saliva
PAIRUS	iLoF – Intelligent Lab on Fiber		Viral Detection & Severity Prediction	Pandemic Artificial Intelligence-based Risk Unified Stratification (PAIRUS) is a rapid and low-cost, personalized medicine-based tool capable of distinguishing COVID-19 from other respiratory infections and predicting the evolution of COVID-19 viral infection on a patient-specific basis. The platform is built based on the iLoF platform, a fully operational validated solution, based on photonics and Artificial Intelligence algorithms that allows the detection and identification of bio-nanostructures in liquid dispersions (e.g., plasma) for personalized and precision medicine applications.	20 sec	Plasma
XVS	Mindfully Technologies		Patient screening, triage and prioritization	Use of AI to assist radiologists in analyzing medical images, saving 25% of the diagnostic time by detecting possible conditions and highlighting their locations. The system, which is able to accurately detect multiple pathologies on both radiographies and CT scans, to localize them and to generate auxiliary information, will be applied to COVID-19. This will allow doctors to triage patients and to process medical images faster and with greater precision. XVision offers free trials of our products (2-3 months, depending on each of the hospitals) with no strings attached.	-	-
COV-MUT	NeuroControls GmbH		Nucleic Acid Detection	Neuromorphic identification of DNA/RNA mutations (COVID-19 Virus). The target is to identify hosts which are receptive to virus mutations by identifying potential host genes that could interact with the virus/pathogen via protein-protein interactions.	N/S	N/S
POCT4COVID	IETY – Inventive Engineering & Technology		Antigen Detection	Point of care testing KIT based on electrochemical sensors integrated with a digital device and able to detect SARS-CoV-2 infection in a simple, economical and rapid way, through the use of a specific antibody for one of the marker proteins present on the virus surface: Spike S1 glycoprotein (PSS1 SARS-CoV-2). The device will be integrated into a technological	15 min	Saliva

				platform capable of storing the result and transferring it to the CLOUD environment for any remote reporting.		
QuickCov19	Aqsens Health Ltd		Viral Detection	Quick test for early screening of COVID-19 based on E-TRF method, to detect the metabolic changes instantly after infection (both sensitivity and specificity above 90%). The Aqsens E-TRF method combines Time Resolved Fluorescence with proprietary modulators, which interact with the sample molecules to create a unique fingerprint of the sample.	5 min	Saliva
AI MedAssist	Sycal Technologies SL		Disease assessment & Severity Prediction	AI MedAssist, an AI-based tool, diagnoses COVID-19 and predicts the evolution of each patient, analyzing a chest X-Ray image and 6 factors of the clinical history of the patient.	N/S	N/S
DSA BreathPass™	Deep Sensing Algorithms Ltd Oy		Viral detection	Handheld ultra-fast breath analyzing device for COVID-19 screening. It characterizes the Volatile Organic Compounds (cell level biomarkers created by human metabolism at the onset of a disease) within breath samples, produces predictions for different health conditions based on Deep Computing algorithms and generates results in few seconds. A new person can be tested on average every 2 minutes. The DSA BreathPass can be used through the Mobile Application and Web-UI.	3 sec	Exhaled breath
JB-JustBreath	NANOTECH ANALYSIS SRL		Viral Detection	Non-invasive, portable, and rapidly deployable automatic diagnostic nanotech instrument capable of detecting Cov-19 positivity, also in asymptomatic people, by performing near real time Volatile Organic Compounds (VOCs) measurements at molecular level. The system implements a smart nano sampling device (NTA patented technology) paired with a high precision mass spec analyzer.	30 sec	Exhaled breath
THERM-AI	Kelvin Health		Disease assessment	Image recognition technology that is deployable at scale to screen and monitor COVID-19 inflammation. It requires thermal image captures of the subject's upper body and it analyses the images through an AI engine running in the cloud, returning a preliminary screening result through the THERM-AI app.	N/S	N/S