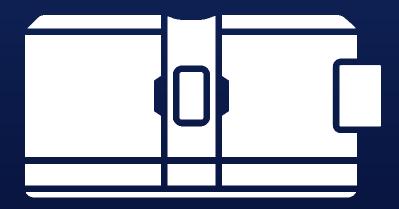


# RANDOX DISCOVERY

The Benchtop Lab



# DISCOVER THE FUTURE OF

# IMMUNOASSAY & MOLECULAR **DIAGNOSTICS**



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# DISCOVER HOW YOU CAN IMPROVE WORKFLOW AND EFFICIENCY

The Randox Discovery is an exciting and disruptive analyser capable of consolidating molecular and immunoassay testing on one compact benchtop platform.



#### **MULTIPLEX TESTING**

Simultaneous detection of hundreds of targets from a single patient sample via patented biochip technology.



#### LABOUR SAVINGS

Fully automated platform increasing operator walkaway time. A single operator is all that's required to run up to 3 Discovery analysers.



#### RAPID RESULTS

Three hours to first batch of results with results for subsequent batches every hour after. Each batch may contain up to 16 patient samples.



#### **TEST MENU**

Our flexible test menu comprises immunoassay and molecular diagnostic assays.



#### **WORKFLOW CONSOLIDATION**

The Randox Discovery consolidates the workflow of multiple laboratories into a single walkaway, benchtop platform. This minimizes the workload of laboratory personnel, as only the patient samples and relevant consumables need to be loaded onto the platform.



#### **USER-FRIENDLY**

Simple and easy to use. Intuitive user interface guides the operator through the entire testing process.

# DISCOVER THE POWER OF RANDOX BIOCHIP TECHNOLOGY

Biochip Technology delivers many benefits to the modern laboratory



Test for hundreds of targets at once for superior patient profiling



Multiplex testing reduces the amount of time and labour spent on individual tests



Identify co-infections and differentiate between pathogens that exhibit similar symptoms

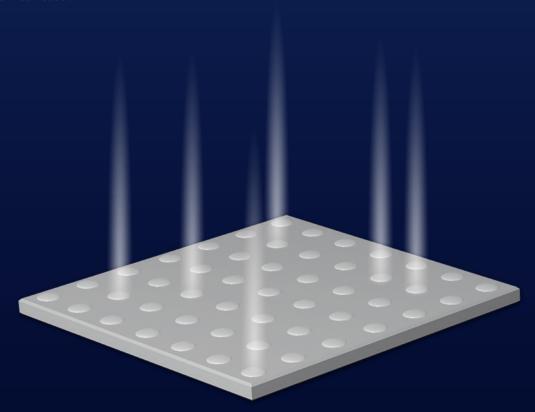


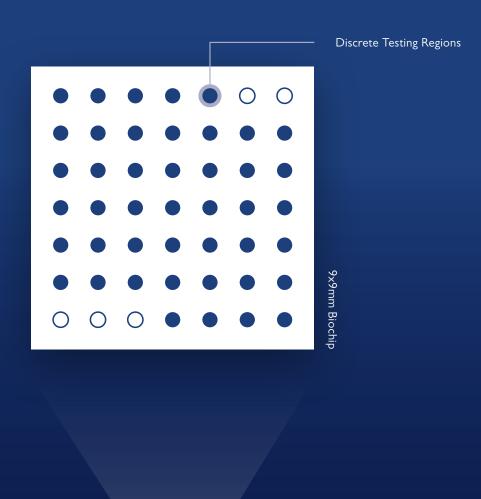
Accurate results, Biochip Technology is currently being used in the UK's national COVID-19 testing programme



A single patient sample is all thats required, no need to aliquot or re-collect

Randox patented Biochip Technology allows simultaneous detection of multiple targets from a single patient sample. The biochip detection system is based on a chemiluminescent signal, this is the emission of light, without heat, as a result of a chemical reaction.





# **HOW IT WORKS**

Each biochip is prefabricated with spatially discrete testing regions (DTR's). Each DTR represents an individual test. Each DTR can be occupied with oligonucleotides specific to a pathogen or target of interest or an antibody for immunoassay testing. The Hi-Plex capabilities of Biochip Technology eliminates the need to run multiple time consuming and sample intensive assays.

An enzyme is used to catalyse the chemical reaction of the biochip which generates the chemiluminescent signal. The light emitted from the chemiluminescent reaction that takes place in each DTR is simultaneously detected and quantified using a Charge – Coupled Device (CCD) Camera. This CCD Camera simultaneously records the light emission from all the DTRs on each biochip. The Randox Discovery automatically generates a result report for all targets.

# DISCOVER OUR COMPREHENSIVE TEST MENU



# DISCOVER OUR COMPREHENSIVE TEST MENU



#### SARS-COV-2 ARRAY

The SARS-CoV-2 Array detects both SARS-CoV-2 (COVID-19) and Sarbecovirus (confirmatory target), to report COVID-19 positive patient samples.

#### **PATHOGENS**

SARS-CoV-2 (COVID-19)

Sarbecovirus (SARS, SARS Like, SARS-CoV-2)



#### EXTENDED CORONAVIRUS ARRAY \*In Development

The Extended Coronavirus Array detects SARS-CoV-2 (COVID-19) in addition to 9 other related respiratory infections. This provides precise diagnostics enabling targeted treatment.

#### **PATHOGENS**

SARS-CoV-2 (COVID-19) Enterovirus A/B/C Influenza B

Adenovirus A/B/C/D/E Coronavirus 229E/NL63 Middle East Respiratory

Sarbecovirus Influenza A Syndrome Coronavirus (MERS-CoV)

(SARS, SARS like, SARS-CoV-2)

Coronavirus OC43/HKUI

Rhinovirus A/B



#### RESPIRATORY TRACT INFECTION ARRAY (RTI) \*In Development

The Respiratory Tract Infection Array is the most comprehensive screening test for infections of both the upper and lower respiratory tracts. It simultaneously detects 14 viral and 8 bacterial infections. The test can be carried out with nasopharyngeal swabs, sputum or broncheoalveolar lavage (BAL).

#### **VIRAL**

Influenza ACoronavirus OC43/HKUIParainfluenza virus 3Influenza BEnterovirus A/B/CParainfluenza virus 4

Adenovirus A/B/C/D/E Metapneumovirus Respiratory syncytial virus A/B

Bocavirus I/2/3 Parainfluenza virus I Rhinovirus A/B/C

Coronavirus 229E/NL63 Parainfluenza virus 2

#### **BACTERIAL**

Bordetella parapertussis Haemophilus influenzae Mycoplasma pneumoniae

Bordetella pertussis Legionella pneumophila Streptococcus pneumoniae

Chlamydophila pneumoniae Moraxella catarrhalis



#### CHRONIC LUNG INFECTION (CLI) ARRAY \*In Development

The Chronic Lung Disease array is a world leading multiplex test, detecting 132 species associated with long term lung disease e.g. Cystic Fibrosis and Chronic Obstructive Pulmonary Disease (COPD). The 132 species are simultaneously detected across this 32-plex array and includes bacterial, viral, fungal targets and an antibiotic resistance marker from a single sputum sample. Furthermore, the MecA antibiotic resistance marker is included to assist antibiotic stewardship.

#### **VIRAL**

Adenovirus Respiratory syncytial virus B Influenza virus B

Metapneumovirus Rhinovirus A/B/C
Respiratory syncytial virus A Influenza virus A

#### **BACTERIAL**

Achromobacter xylosoxidans Moraxella catarrhalis Pseudomonas aeruginosa

Bordetella pertussis Mycoplasma pneumoniae Staphylococcus aureus

Burkholderia cepacia complex (21spp)

Non-tuberculous mycobacterium (15 spp)

Stenotrophomonas maltophilia

Burkholderia cenocepacia Mycobacterium avium complex (4 spp) Streptococcus pneumoniae (21 spp)

Chlamydia pneumoniae Pandoraea species (5 spp) Streptococcus species (19 spp)

Haemophilus influenza Prevotella species (16 spp) Veillonella species (3 spp)

#### **FUNGAL**

Aspergillus fumigatus Exophialia dermatitidis

Candida albicans Scedosporium species (7 spp)

#### **ANTIBIOTIC RESISTANCE MARKERS**

mecA (incl MRSA)



## SEXUALLY TRANSMITTED INFECTION (STI) ARRAY \*In Development

The Sexually Transmitted Infection Array (STI) is the broadest STI screen on the market, simultaneously detecting 10 bacterial, viral and protozoan infections for a comprehensive sexual health profile.

#### **PATHOGENS**

Chlamydia trachomatis (CT)	Treponema pallidum (Syphilis) (TP)	Mycoplasma hominis (MH)
Neisseria gonorrhoea (NG)	Herpes simplex virus 1 (HSV-1)	Ureaplasma urealyticum (UU)
Trichomonas vanginalis (TV)	Herpes simplex virus 2 (HSV-2)	
Mycoplasma genitalium (MG)	Haemophilus ducreyi (HD)	



#### GIO URINARY TRACT INFECTION (UTI) ARRAY \*In Development

The Urinary Tract Infections (UTI) array is a market leading test which detecting 30 bacterial, fungal and associated antibiotic resistance markers from a single urine sample. Identification of a multiplex UTI can prevent further damage to the renal system including the kidneys and bladder. The various antibiotic resistance markers are included to assist antibiotic stewardship.

#### **BACTERIAL**

Acinetobacter baumannii	Escherichia coli	Providencia stuartii
Citrobacter freundii	Klebsiella oxytoca	Serratia marcescens
Citrobacter koseri	Klebsiella pneumoniae	Staphylococcus aureus
Klebsiella aerogenes	Morganella morganii	Staphylococcus epidermidis
Enterobacter cloacae	Proteus spp.	Staphylococcus saprophyticus
Enterococcus faecalis	Pseudomonas aeruginosa	Streptococcus agalactiae (GBS)
Enterococcus faecium	Providencia rettgeri	

#### **FUNGAL**

Candida albicans

#### **ANTIBIOTIC RESISTANCE MARKERS**

mecA (incl MRSA)	Trimethoprim Resistance 3	Trimethoprim Resistance 5
Trimethoprim Resistance I	S mecA (incl MRSA)	Van A (Vancomycin Resistance A)
Trimethoprim Resistance 2	Trimethoprim Resistance 4	Van B (Vancomycin Resistance B)



# KRAS, BRAF, PIK3CA ARRAY \*In Development

The KRAS, BRAF, PIK3CA Array simultaneously detects 20 point mutations within the KRAS, BRAF and PIK3CA genes for rapid patient profiling.

#### **KRAS GENE TARGETS**

GI2A	GI3D	Q61H
GI2R	GI3C	Q61H
GI2D	GI3R	A146 <sup>-</sup>
GI2C	Q61K	A146F
GI2S	Q61L	
GI2V	Q61R	

#### **BRAF GENE TARGET**

V600EG12R

#### PIK3CA GENE TARGETS

E542K	E545K	H1047R



#### CARDIAC RISK PREDICTION \*In Development

Randox has developed a rapid array which will allow all 19 SNPs to be genotyped simultaneously, which incorporates a test to identify patients predisposed to statin induced myopathy.

TARGET	SNP
MIA3*	rs   7465637
9p21	rs10757274
DAB2IP	rs7025486
CXCL12	rs   746048
ACE	rs4341
NOS3	rs 1799983
APOA5	rs662799
SMAD3	rs17228212
APOB*	rs1042031
CETP	rs708272

TARGET	SNP
LPA*	rs3798220
LPA*	rs10455872
MRAS*	rs9818870
LPL*	rs328
LPL	rs1801177
SORTI*+	rs646776+
PCSK9	rs11591147
APOE*	rs429358
APOE*	rs7412

H(1) H(2)

# FAMILIAL HYPERCHOLESTEROLEMIA \*In Development

The Familial Hypercholesterolemia (FH) Arrays I & II are rapid, simple and accurate diagnostic tests which enable simultaneous detection of 40 FH-causing mutations (20 mutations per array) within the LDLR, ApoB and PCSK9 genes

LDLR 38 mutations	APOB   mutation	PCSK9   mutation
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#### FH ARRAY I MUTATION COVERAGE APOB **MUTATION PROTEIN** c.10580G>A p.(Arg3527Gln) **LDLR MUTATION PROTEIN** c.2292delA p.(Ile764Metfs\*2) c.1444G>A p.(Asp482Asn) c.551G>A p.(Cys184Tyr) c.1845+11C>G p.(=) p.(Cys231\*) c.693C>A c.933delA p.(Glu3 I 2Serfs\*58) c.301G>A p.(Glu I O I Lys) c.313+IG>Ap.(=)c.1706-1G>A p.(=)c.1706-1G>A p.(Cys677Arg) c.2029T>C p.(Pro685Leu) c.2054C>T p.(Trp483Arg) c.1447T>C p.(Gly478Arg) c.1447T>C p.(Asp72Thrfs\*134) c.214delG p.(Trp87Gly) c.259T>G p.(Arg633Cys) c.1897C>T p.(Asp227Glu) c.681C>G p.(Asn688GInfs\*29) PCSK9

MUTATION	PROTEIN
c.1120G>T	p.(Asp374Tyr)

#### FH ARRAY II MUTATION COVERAGE

#### **LDLR**

MUTATION	PROTEIN
c.1285G>A	p.(Val429Met)
c.680_681delAC	p.(Asp227Glyfs*12)
c.1187-10G>A	p.(=)
c.1048C>T	p.(Arg350*)
c.118delA	p.(Ile40Serfs*166)
c.1168A>T	p.(Lys390*)
c.232C>T	p.(Arg78Cys)
c.1587-1G>A	p.(=)
c.1706-10G>A	p.(=)
c.1796T>C	p.(Leu599Ser)
c.1436T>C	p.(Leu479Pro)
c.1474G>A	p.(Asp492Asn)
c.501C>A	p.(Cys I 67*)
c.662A>G	p.(Asp221Giy)
c.682G>T	p.(Glu228*)
c.1150C>T	p.(Gln384*)
c.938G>A	p.(Cys313Tyr)
c.136T>G	p.(Cys46Gly)
c.2042G>C	p.(Cys681Ser)
c.1618G>A	p.(Ala540Thr)



#### ACUTE KIDNEY INJURY ARRAY

Lipocalin (NGAL) Clusterin

Cystatin C Kidney Injury Molecule-1 (KIM-1)

#### **ADHESION MOLECULES ARRAY**

E-selectin Intercellular adhesion molecule- I Vascular cell adhesion molecule- I

coloctin (ICAM-I) (VCAM-I)

L-selectin

#### **ANAEMIA ARRAY**

Ferritin Folate Vitamin B12

#### **ALZHEIMERS RISK ARRAY**

Pan ApoE ApoE4

#### CARDIAC ARRAY

Creatine-Kinase Muscle Brain (CK-MB) (H-FABP) Troponin I

Heart-Type Acid Binding Protein Myoglobin

#### **CEREBRAL ARRAY II**

C-Reactive Protein (CRP) Neutrophil Gelatinase-Associated Soluble Tumour Necrosis Factor

D-Dimer Lipocalin (NGAL) Receptor I (sTNFRI)

Neuron Specific Enolase (NSE)

## IMMUNOASSAY \*In Development

#### CHRONIC KIDNEY DISEASE ARRAY I

Epidermal Growth Factor (EGF)

Fatty Acid-Binding Protein I (FABPI)

Interlukin - 8 (IL-8)

Receptor I (sTNFRI)

Soluble Tumour Necrosis Factor

Receptor II (sTNFRII)

Soluble Tumour Necrosis Factor

D-Dimer

Macrophage Inflammatory Protein-I $\alpha$ (MIP-I  $\alpha$ )

#### CHRONIC KIDNEY DISEASE ARRAY II

C-reactive Protein (CRP)

C3a Des Arg

Cystatin C

Neutrophil Gelatinase-Associated

Lipocalin (NGAL)

#### CYTOKINE ARRAY I

Interleukin-I (IL-Iα)

Interlukin - 8 (IL-8)

Tumour Necrosis Factor Alpha (TNFα)

Interlukin -  $|\beta|$  (IL- $|\beta|$ )

Interlukin - 10 (IL-10)

Interferon Gamma (IFN $\gamma$ )

Vascular Endothelial Growth Factor (VEGF)

Interlukin - 2 (IL-2)

Human EGF (EGF)

Interlukin - 4 (IL-4) Interlukin - 6 (IL-6)

Monocyte Chemoattractant Protein

(MCP-I)

#### CYTOKINE ARRAY III

Interlukin - 5 (IL-5) Interlukin - 15 (IL-15) Granulocyte-macrophage Colony Stimulating Factor (GM-CSF)

Macrophage Inflammatory Protein-I $\alpha$ 

(MIP-I  $\alpha$ )

#### CYTOKINE ARRAY IV

Matrix Metalloproteinase-9 (MMP-9)

Soluble Tumour Necrosis Factor

Soluble Tumour Necrosis Factor

Soluble IL-2 Receptor  $\alpha$  (sIL-2R $\alpha$ )

Soluble IL-2 Receptor (sIL-6R)

Receptor I (sTNFRI) Receptor II (sTNFRII)



#### IMMUNOASSAY \*In Development

#### CYTOKINE ARRAY V

Interlukin - 3 (IL-3) Interlukin - 12p70 (IL-12p70) Interlukin - 23 (IL-23)

Interlukin - 7 (IL-7) Interlukin - 13 (IL-13)

#### **ENDOCRINE ARRAY**

Cortisol (CORT)  $17\alpha$ Hydroxyprogesterone (17 $\alpha$ OHP)

Dehydroepiandrosterone-sulphate

(DHEAs)

Leptin

#### **FERTILITY ARRAY**

Follicle Stimulating Hormone (FSH) Prolactin Hormone (PRL) Estradiol (EST)

Luteinising Hormone(LH) Progesterone (PROG)

#### **GASTROPANEL ARRAY**

Pepsinogen I (PGI) Pepsinogen II (PGII) Gastrin 17 (G17)

#### **HELICOBACTER PYLORI ASSAY**

Helicobacter Pylori (HP)

#### **METABOLIC SYNDROME I ARRAY**

Ferritin Leptin Tumour Necrosis Factor  $\alpha$  (TNF $\alpha$ )

Interleukin-6 (IL-6) Plasminogen Activator Inhibitor-1 (PAI-1)

Insulin Resistin

#### METABOLIC SYNDROME II ARRAY

Adiponectin C-reactive Protein (CRP) Cystatin C

#### **PTH ASSAY**

Parathyroid Hormone (PTH)

#### **SHGB ASSAY**

Sex Hormone-Binding Globulin (SHBG)

#### STROKE ARRAY

Interleukin-6 (IL-6)

Soluble Tumour Necrosis Factor	Fatty acid binding protein 3 (FABP3)	Nucleoside Diphosphate Kinase A
Receptor I (sTNFRI)	D-Dimer	(NDKA)
Glial fibrillary acidic protein (GFAP)	Parkinson Disease Protein 7 (PARK7)	Glutathione S-transferase, Pi (GSTP1)

#### **TESTOSTERONE ASSAY**

Testosterone

#### THYROID TOTAL ARRAY

Iotal thyroxine (114)	Iotal tri-iodothyronine (113)	Thyroid stimulating hormone (TSH)
THYROID FREE ARRAY		
Free thyroxine (FT4)	Free tri-iodothyronine (FT3)	Thyroid stimulating hormone (TSH)

#### THYROID AUTO ANTIBODY ARRAY

Anti-thyroglobulin (TgAb) Anti-thyroid peroxidase Antibody (TPOAb)



#### IMMUNOASSAY \*In Development

#### THYROID TBG ASSAY

Thyroxine Binding Globulin (TBG)

#### **TISSUE DAMAGE ARRAY**

Liver Fatty Acid Binding

Protein-I - FABPI

Heart-Type Fatty Acid-Binding

Protein - FABP3

Adipose Fatty Acid Binding

Protein - FABP4

Epidermal Fatty Acid Binding

Protein - FABP5

Ileal Fatty Acid Binding Protein - FABP6

Brain Fatty Acid Binding

Protein - FABP7

Testis Fatty Acid Binding Protein - FABP9

#### **TUMOR PSA ARRAY**

Free Prostate Specific Antigen (fPSA)

Total Prostate Specific Antigen (tPSA)

Carcinoembryonic Antigen (CEA)

#### VITAMIN D ASSAY

Vitamin D



#### DRUGS OF ABUSE ARRAY ULTRA/DUID

AmphetamineDextromethorphanOxycodone IBarbituratesFentanylOxycodone IIBenzodiazepines I (Oxazepam)Generic OpioidsPhencyclidine (PCP)Benzodiazepines II (Lorazepam)MeprobamateTramadolBenzoylecgonine (Cocaine Metabolite)MethadoneTricyclic Antidepressants (TCA)

Buprenorphine Methamphetamine Zolpidem

Cannabinoids (THC) Opiate

#### NPS I

Bath Salts I (Mephedrone /<br/>Methcathinone)Phenylpiperazines ISynthetic Cannabinoids (AB-<br/>CHMINACA)Bath Salts II (α-PVP / MDPV)SalvinorinSynthetic Cannabinoids (AB-PINACA)

Benzylpiperazines Synthetic Cannabinoids (JWH-018)

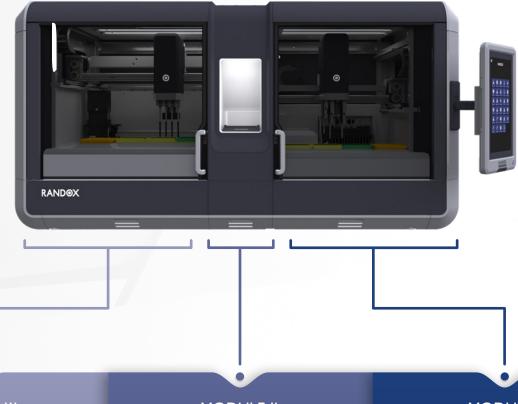
Mescaline Synthetic Cannabinoids (UR-144/XLR-11)

#### NPS II

AcetylfentanylClonazepamNaloxoneAH-792 IEtizolamOcfentanylBuprenorphineFuranylfentanylSufentanilCarfentanil/RemifentanilMitragynineU-47700MT-45W-19

## DISCOVER THE POWER OF AUTOMATION

Randox Discovery is comprised of three interconnected modules which each operate independently performing different aspects of the diagnostic testing process. Each module is separated by a physical barrier to prevent contamination and is accessible via a door. The workflow process runs from right to left and is compatible with lean working principles.



#### MODULE III

Biochip Hybridisation 8

Detection

Module III is used in both immunoassay & molecular workflows and is responsible for hybridisation and subsequent detection using patented biochip technology. The detection camera uniquely moves between sample cartridges to detect biochip chemiluminescence

# **MODULE II**Multiplex PCR

Module II is responsible for amplification of the extracted nucleic acid by End Point PCR. UV light is used to decontaminate the module and reduce the risk of crossover contamination.

### MODULE I

Nucleic Acid Extraction

Module I is responsible for DNA/RNA extraction.
After extraction, DNA/RNA is automatically transferred to Module II. Before transfer, Module I detects the presence of Module II cartridges using a unique vision system.

# DISCOVERY MOLECULAR WORKFLOW

The Randox Discovery is extremely easy to use with minimal training required. A simple 10 step process is all that's required, reducing operator workload and increasing walkaway time.



identify the batch and select it from the queued list and run automatically.

# MOLECULAR KIT COMPONENTS



Lysis Lyo Cartridge



Lysis Reagent Cartridge



PCR Cartridge



Extraction Cartridge



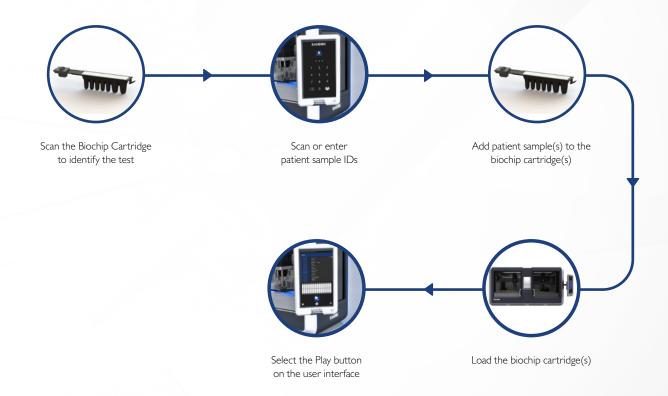
Plunger



Biochip Cartridge

# DISCOVERY IMMUNOASSAY WORKFLOW

The Randox Discovery is extremely easy to use with minimal training required. A simple 5 step process is all thats required, reducing operator workload and increasing walkaway time.

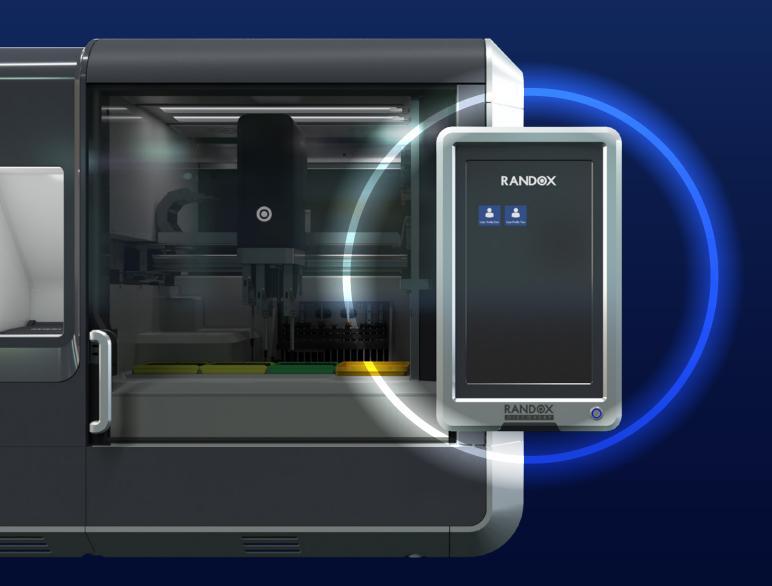


# **SOFTWARE**

The Randox Discovery user interface has been designed to be intuitive and user-friendly. The icon based software is extremely easy to navigate and can be operated when using gloves for ultimate convenience. The smart software automatically alerts the user when consumables need replenished and when waste needs emptied.

#### **USER LOGIN SCREEN**

After initialisation the operator will be presented with the User Login Screen. A list of all pre-registered users will be provided. Two role-based levels of user access are available; Admin and User ensuring access to only relevant information.





#### **USER LOGIN SCREEN**

Each user will have their own unique 4 digit pin increasing security and ensuring only those with approved access can operate the analyser.



#### HOME SCREEN/USER MACHINE STATUS

Upon logging in the user will be presented with the Home or Status Screen. The Status Screen displays the status of samples in each of the three zones, each zone is represented by a circle working from right to left. A list of batches or samples in the queue is also displayed. A new batch can be added to the queue by simply selecting the + icon at the bottom of the screen.



#### ADDING A NEW BATCH

To add a new batch select the + icon at the bottom of the screen and scan the barcode on the Lysis Lyo cartridge. The user will be presented with the assay e.g. STI. Scan or enter each sample, up to 16 samples including controls may be included in a batch. The on-screen sample caddy located at the bottom of the screen will highlight the position of the sample on the caddy. Randox controls are automatically identified and defined as controls. Select a position on the cartridge caddy to display information on the sample. Select the play button twice to add the sample batch to the queue.



#### **RESULT HISTORY**

To view results, select the report icon at the bottom right of the screen. A list of all completed batches will be displayed. The user can choose to select a batch to view results or search by sample ID, test type, user or date. Results may be exported to USB. By selecting a sample within a batch, a list of results for each target on the Randox biochip is displayed. Further information on the sample can be accessed by selecting the Show Info button.





reddot winner 2021

# **DISCOVERY AT A GLANCE**



Contamination is kept to a minimum through use of disposable tips, physical barriers between each zone, filtered fans to control transfer of contaminant aerosols between zones and UV light.



A minimal set up time of 10-15 minutes is all that is required for the Randox Discovery. This ensures workload optimisation and reduces laboratory down time.



A custom bench designed specifically for the Randox Discovery is an optional extra when purchasing the analyser.



Waste management is optimised on-board the Randox Discovery as waste bins are situated in each zone and are only required to be emptied periodically. Hands on time is reduced and the workflow of the analyser is optimised due to the intuitive management of waste.



Tip saver algorithm can be activated or deactivated depending on the test to reduce consumable costs.



The system utilises ready to use cartridge based prefabricated reagents meaning there is no off-board preparation required by the operator.

# **CUSTOMER SUPPORT**



#### ORDERING INFORMATION

# **SERVICE OPTIONS**

Designed to maximise uptime and laboratory productivity, the service drawer is located under the machine, meaning the Discovery does not have to be moved during service, reducing the time, tools and personnel required. Choose from one of three flexible service and support packages.



#### GOLD - Fully Comprehensive

This service package offers you complete peace of mind covering all maintenance work and any break downs on your Randox analyser - ultimately maximising analyser uptime and your testing capabilities.

- Fully comprehensive contract covering replacement parts and preventative maintenance
- Priority emergency breakdown cover
- Remote diagnostic and fault-finding support
- Fully comprehensive technical support
- Rapid and best in class response times
- Software updates



#### **SILVER** - Preventative Maintenance

The Randox silver package consists of maintenance and services to keep your analyser in excellent working condition.

- Preventative maintenance visits included
- Telephone support during normal working hours as required
- Prioritised response times



#### **TECHNICAL SUPPORT - Priority over non-contract customers**

Our focus is on providing you with world-class customer service and maintaining excellent relationships with all of our customers. We know time is critical in any laboratory and our global network means we are uniquely positioned to meet your needs with local service and support.

- Telephone and email support during normal working hours
- Technical troubleshooting
- Essential to ensure continuous productivity and analyser uptime
- Prioritised response times

# **SPECIFICATIONS**

#### PHYSICAL DIMENSIONS

Width	1835mm
Depth	730mm
Height	950mm
Weight	250kg

#### PERFORMANCE CHARACTERISTICS

Throughput	<ul> <li>48 patient samples in 5 hours (assay dependent)</li> <li>Up to 16 samples per 'batch' run</li> <li>Up to 3 'batch' runs on machine at one time</li> <li>3 hours to first 'batch' run results (assay dependent)</li> </ul>
Analyser Type	Fully automated, benchtop molecular & immunoassay platform
Assay type	Molecular, Immunoassay
Sample Type	Nasopharyngeal & Oropharyngeal Swab, Urine, BAL, Sputum (Array Specific)
Maintenance	Preventative maintenance twice per year
Sample Volume	Array specific
Sample Identification	Barcode sample identification, manual entry
Sample Capacity	Each batch may contain up to 16 samples including controls
Decontamination	Contamination is kept to a minimum through use of disposable tips, physical barriers between each zone, filtered fans to control transfer of contaminant aerosols between zones and UV light.

#### **REAGENTS**

Reagent Identification	Barcode reagent identification
Reagent Type	Ready to use cartridge based prefabricated reagents
Reagent Pipette	The system uses disposable 1000ul and 50ul pipette tips to reduce contamination
Inventory	The system will alert the operator to shortages in consumables and when waste bins need changed

#### **POWER & CONNECTIVITY**

Power Requirements	208 – 240V, I3A Single Phase
Power Consumption	1800W peak
Permissible voltage variation	Variation: +/-10%
LIMS Connectivity	Yes

#### **OPERATING SYSTEM**

Operator Interface	Microsoft Windows IoT Kiosk. Touchscreen user-interface mounted to the analyser can be operated when wearing gloves. USB port allows easy retrieval of results and software updates to be made without an on site visit from a Randox engineer.
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# **QNOSTICS**

#### Quality Control Solutions for Molecular Infectious Disease Testing

Qnostics is a leading provider of Quality Control solutions for Molecular Infectious Disease testing. Designed to meet the demands of today's molecular diagnostics laboratory and laboratories carrying out Nucleic Acid Testing (NAT), our range comprises hundreds of characterised viral, bacterial and fungal targets covering a wide range of Transplant Associated Diseases, Respiratory Diseases, Blood Borne Viruses, Sexually Transmitted Infections, Gastrointestinal Diseases and Central Nervous System Diseases.

As a provider of complete QC solutions, our products can be used in the daily monitoring of assay performance, linearity assessment, assay evaluation, validation/verification of new assays and staff training.

#### **O CONTROLS**

Our range of positive run, whole pathogen, third party controls is designed to monitor assay performance on a daily basis. As true third-party controls, assay drift is detected, monitored and managed helping to ensure accurate and reliable results. The use of third party controls will also help to support ISO15189:2012 regulatory requirements.

#### **ANALYTICAL O PANELS**

Analytical Q panels are designed to cover the dynamic range of an assay allowing assessment of the linearity, LOD and LOQ. Each panel contains a minimum of five samples spanning the dynamic range of the assay in a linear progression.

#### **MOLECULAR Q PANELS**

Molecular Q panels consist of three individual levels intended to evaluate the assays' analytical measuring range. Molecular Q panels can also be used to support laboratory training and in the assessment and development of molecular diagnostic assays from extraction phase through amplification and finally detection.

#### **EVALUATION PANELS**

Evaluation panels cover a range of genotypes and may be used to evaluate assay characteristics, confirm performance claims and ultimately ensure the assay is fit for purpose. Evaluation panels may also be used in the validation of clinical assays and the development of new diagnostic tests.

# QCMD

#### EQA for Molecular Infectious Disease Testing

QCMD (Quality Control for Molecular Diagnostics) is an independent External Quality Assessment (EQA) / Proficiency Testing (PT) scheme specialising in molecular testing of a wide range of infectious diseases. External Quality Assessment (EQA) or Proficiency Testing (PT) provides a means of periodically assessing a laboratory's performance in comparison with other laboratories using the same method and instrument. Unlike Internal Quality Control (IQC), EQA provides an effective method of monitoring a laboratory's bias or accuracy through the analysis of 'blind samples'. Participation in an EQA scheme like QCMD will also support regulatory requirements and will assist in quality improvements.

Our portfolio comprises EQA programmes for over 90 viral, bacterial, fungal and parasitic pathogens including blood borne viruses, gastrointestinal diseases, respiratory pathogens, transplant associated diseases, sexually transmitted infections and exotic / emerging diseases.

# **BENEFITS**



**Extensive Programme Offering** 



Online EQA Management System



Frequent Reporting



High level of participation



High Quality Material



Comprehensive Reports



International Accreditation

# RANDOX MOLECULAR PLATFORMS



#### **EVIDENCE INVESTIGATOR**

Evidence Investigator is a medium throughput platform capable of Hi-Plex and Lo-Plex molecular diagnostics. The Evidence Investigator utilises Biochip Technology which facilitates multiplex testing, and is suitable for a laboratory setting.



Extensive Test Menu



Superior Intelligence



Semi-Automated



#### **VIVALYTIC**

Vivalytic enables sample to answer, cartridge-based Molecular Diagnostic testing. The Vivalytic platform is capable of both Hi-Plex and Lo-Plex testing. Nucleic acid extraction, PCR amplification followed by a suite of detection methods are combined in a truly revolutionary, fully automated, near patient platform.



Fully Automated



User-Friendly



Workflow Consolidation

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