EVIDENCE MULTISTAT

An Evidence Series Analyser

RANDOX
TOXICOLOGY

Advancing the Future of Toxicology


RANDOX

Pioneering Solutions for Accurate Drug Detection

Randox Toxicology aim to minimise laboratory workflow constraints whilst maximising the scope of quality drug detection. We are the primary manufacturer of Biochip Array Technology, ELISAs, reagents, quality control and automated systems for forensic, clinical and workplace toxicology.

Our Team

Built on a foundation of continuous innovation, our research and development team continue to advance the future of toxicology through pioneering technology and novel tests. Our global technical and engineering support work closely with our business development team to guarantee a rapid response to your needs no matter where your laboratory is in the world.

With the ability to raise antibodies and develop assays at our UK Headquarters, Randox Toxicology can produce the optimum target compounds with excellent specificity. For over 35 years Randox has continued to place assurance and accreditation at the core of the manufacturing process, ensuring a sustained high standard.

Biochip Array Technology

Moving away from traditional single analyte assays, Biochip Array Technology (BAT) boasts cutting-edge multiplex testing capabilities providing rapid and accurate drug detection from a single sample. Based on ELISA principles, the Biochip is a solid state device with discrete test regions onto which antibodies, specific to different drug compounds, are immobilised and stabilised. Competitive chemiluminescent immunoassays are then employed, offering a highly sensitive screen.

Designed to work across a wide variety of matrices, this revolutionary multi-analyte testing platform allows toxicologists to achieve a complete immunoassay profile from the initial screening phase. Offering the most advanced screening technology on the market, Randox Toxicology has transformed the landscape of drugs of abuse (DoA) testing.

Benefits

Simultaneous Detection

Multiplex testing facilitates simultaneous screening of various drugs and drug metabolites from a single sample.

Accurate Testing

Biochip Array Technology has a proven high standard of accurate test results with CVs typically <10%.

Optimum Efficiency

Multiplexing delivers a more cost effective and efficient solution compared to any existing method.

Exclusive Tests

Randox holds patents on 28 toxicology antibodies and many more.

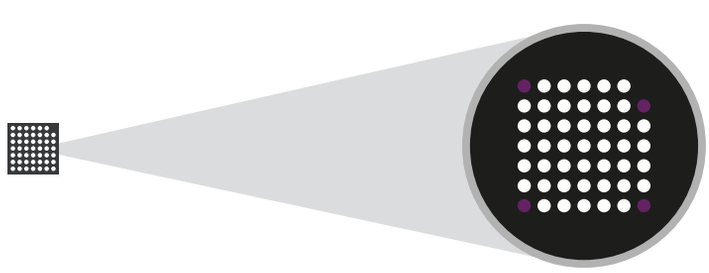
Multiplex Explained

BAT is an immunoassay testing platform for the simultaneous multi-analyte testing of a panel of related tests. The technology works by combining a panel of up to 44 related tests on a single Biochip with a single set of reagents, controls and calibrators. Competitive chemiluminescent immunoassays are employed for the Biochip Arrays. The light signal generated from each of the test regions on the Biochip is simultaneously detected using digital imaging technology and compared to that from a calibration curve.

Key

Discrete test region

Quality control spot



7x7 Biochip surface

44 discrete test regions on each Biochip for individual analytes

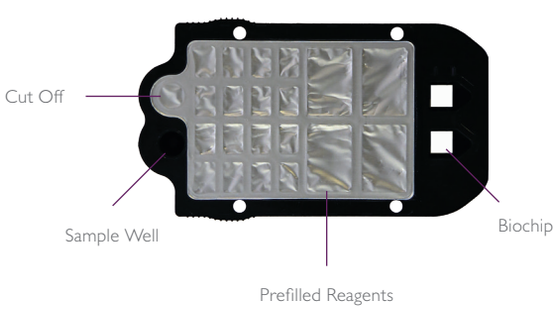
Evidence MultiSTAT

Using our revolutionary Biochip Array Technology, the Evidence MultiSTAT is an automated analyser that enables on-site simultaneous detection of up to 21 classical, prescription and synthetic drugs from a single sample. Designed to work across a variety of matrices, our patented multi-analyte testing platform provides a complete toxicology profile within minutes, changing the landscape of drug detection forever.

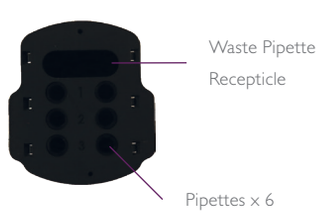
Evidence
MultiSTAT Analyser

What's needed?

MultiSTAT Cartridge



MultiSTAT Tip box



Benefits

Rapid Screening

As minimal sample preparation is required, qualitative results can be provided in under 20 minutes, offering an efficient and accurate toxicology screen.

Multiple Matrices

Testing is available across multiple matrices including; whole blood, urine, and oral fluid to accommodate any testing requirements.

Simple Process

With prefilled reagents cartridges and a simple interface, non-laboratory trained staff can operate the analyser in any environment and achieve accurate, qualitative results in minutes.

Reliable Results

Using chemiluminesence as a measurement principle, the Evidence MultiSTAT consistently delivers accurate results and offers a highly sensitive way to detect drugs of abuse.

Extensive Test Menu

The Evidence MultiSTAT facilitates on-site simultaneous screening of multiple drug classes, including classical, prescription and synthetic drugs of abuse.

Industries

Emergency/Hospitals

Emergency room's typically screen for many routine drugs of abuse, as patients may be incoherent when providing information.

Workplace Drug Testing

With far-reaching implications, up to 20 percent of work-related fatalities test positive for drugs or alcohol. The drugs at the root of this issue include cocaine, heroin, methamphetamine and prescription drugs.

Rehabilitation Centres

It is important to have a clear understanding of the drugs in the patient's system before facilitating detox and to monitor abstinince.

Custodial

Urine testing is the most commonly performed drug test for detecting abuse in prisons with its ease of use and convenience. Current employees of correctional facilities are likewise tested for drug and alcohol use. Typically drug tests in prisons include amphetamines, cocaine, marijuana and opiates.

Mining Industry

The priority for any mine is preventing accidents, reducing costs associated with high false rates from current testing methods and keeping workers who are under the influence of drugs and alcohol off site.

Racing/Anti-Doping

Most common in racehorses, drug tests are also performed on horses in endurance riding and in competition horses such as the Olympics. Many competition horses are regulated by various international and national organisations.

Prisons

Drug testing in prisons is key to ensuring offenders have a better chance of leading a drug free lifestyle after custody, as the links between drug use and crime is increasing.

Doctor's Surgery

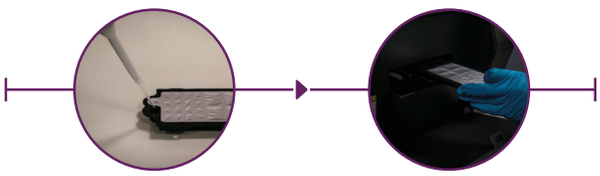
Drug testing patients who are being treated for pain can be tested for opioid misuse and abuse, offering wider options and the ability for doctors caring for pain patients to make informed decisions.

Airports

Testing employees for drugs is extremely important. Random tests and tests after an accident or serious incident involving an employee is crucial to passenger safety and airport security.

Evidence MultiSTAT Process

User Steps



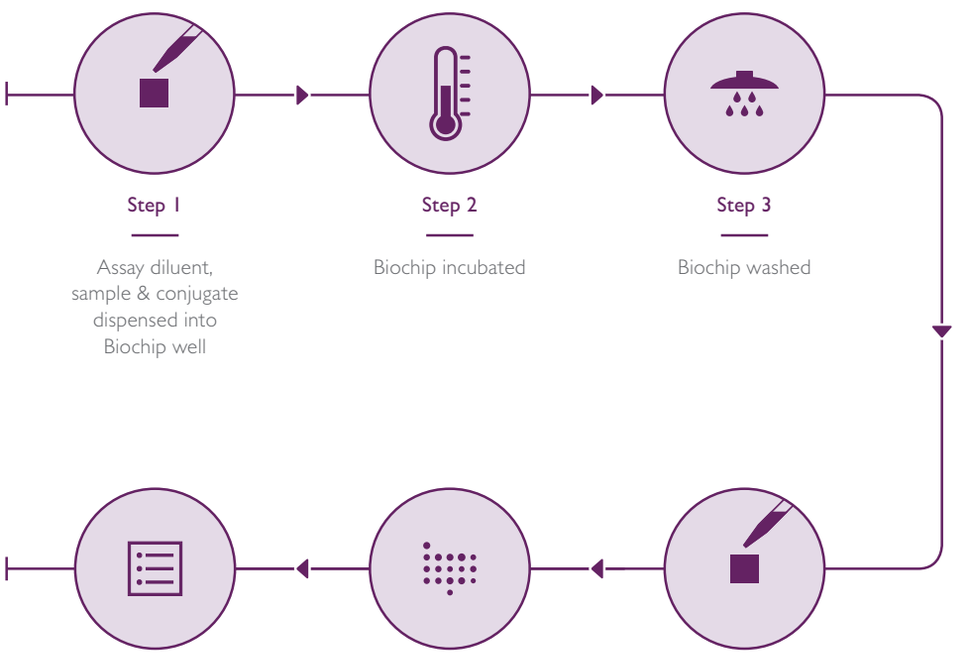
Step 1

Prepare sample and add to cartridge

Step 2

Load cartridge and tip cartridge to MultiSTAT

Analyser Steps



Step 1

Assay diluent, sample & conjugate dispensed into Biochip well

Step 2

Biochip incubated

Step 3

Biochip washed

Step 4

Signal reagent dispensed into Biochip well

Step 5

Biochip loaded into image box and chemiluminescence measured

Step 6

Test results reported in under 20 minutes

Evidence MultiSTAT Specifications

Analyser Description	Fully automated Biochip Array analyser
Dimensions	585 (H) x 535 (D) x 570 (W) mm
Weight	48kg (106lbs)
Biochip Format	Cartridge based system – assay reagents sealed in a pre-filled cartridge
Connectivity	LIMS uni-directional interface
Data Back-up Methods	Data export functionality
Environment	Operating temperature 18˚C-32˚C, <80% Relative humidity, <2000m Altitude, Pollution: Degree 2 (IEC 664) Stable workbench required
Measurement Principal	Competitive techniques with chemiluminescent reaction
Operator Interface	15.6" touch screen
Peripherals	Barcode scanner Printer can be connected (not included)
Power Requirements	Input Voltage 110-240v
Sample Loading	Single cartridge loading bay
Sample Volume	200µl
Time to Result	17 minutes - 23 minutes

Test Menu

Blood

Cat. No. EV4195

Time to Result: 23 minutes

Assay	Cut-Off	Assay	Cut-Off
Fentanyl	1 ng/ml	BZG (Cocaine Metabolite)	25 ng/ml
AB-PINACA	2 ng/ml	Oxycodone	10 ng/ml
Ethyl Glucuronide (EtG)	500 ng/ml	Tramadol	5 ng/ml
Methamphetamine	50 ng/ml	Cannabinoids (THC)	10 ng/ml
Barbiturates	50 ng/ml	TCA	60 ng/ml
Benzodiazepines	20 ng/ml	Amphetamine	50 ng/ml
AB-CHMINACA	5 ng/ml	Buprenorphine	2 ng/ml
Methadone	10 ng/ml	6-MAM	10 ng/ml
Opiates	80 ng/ml	α-PVP	5 ng/ml
Phencyclidine	5 ng/ml	Pregabalin	1000 ng/ml

Urine I

Cat. No. EV4193

Time to Result: 17 minutes

Assay	Cut-Off	Assay	Cut-Off
Fentanyl	2 ng/ml	TCA	150ng/ml
Ethyl Glucuronide (EtG)	750 ng/ml	Cannabinoids (THC)	20 ng/ml
Methamphetamine	200 ng/ml	Amphetamine	200 ng/ml
Barbiturates	200 ng/ml	Buprenorphine	1 ng/ml
Benzodiazepines I	150ng/ml	6-MAM	10 ng/ml
Benzodiazepines II	150ng/ml	Synthetic Cannabinoids (JWH-018)	20 ng/ml
Methadone	300 ng/ml	α-PVP	5 ng/ml
Opiates	200 ng/ml	Synthetic Cannabinoids (UR-144)	10 ng/ml
BZG (Cocaine Metabolite)	150 ng/ml	AB PINACA	2.5ng/ml
Oxycodone	50 ng/ml	Creatinine	20mg/dl
Tramadol	5 ng/ml	-	

Urine II

Cat. No. EV4292

Time to Result: 17 minutes

Assay	Cut-Off	Assay	Cut-Off
Fentanyl	2ng/ml	BZG	300ng/ml
AB-PINACA	3ng/ml	Tramadol	20ng/ml
Ethyl Glucuronide (EtG)	750ng/ml	Cannabinoids (THC)	50ng/ml
Methamphetamine	500ng/ml	Tricyclic Antidepressants	150ng/ml
Barbiturate	200ng/ml	Amphetamine	500ng/ml
Benzodiazepine	200ng/ml	Synthetic Cannabinoids (UR-144)	10ng/ml
AB-CHMINACA	10ng/ml	6-MAM	10ng/ml
Methadone	300ng/ml	Pregabalin	300ng/ml
Opiates	300ng/ml	α-PVP	5ng/ml
PCP	25ng/ml	Creatinine	20mg/dl

Oral Fluid

Cat. No. EV4117

Time to Result: 17 minutes

3-fold dilution applied by the collection device has been accounted for in the cut-off material provided

Assay	Cut-Off	Assay	Cut-Off
Fentanyl	1 ng/ml	BZG (Cocaine Metabolite)	20 ng/ml
Ketamine	50 ng/ml	Oxycodone	8 ng/ml
LSD	1 ng/ml	Tramadol	4 ng/ml
Methamphetamine	50 ng/ml	Cannabinoids (THC)	2 ng/ml
Barbiturates	50 ng/ml	Amphetamine	50 ng/ml
Benzodiazepines I	10 ng/ml	Buprenorphine	1 ng/ml
Benzodiazepines II	10 ng/ml	6-MAM	2 ng/ml
Methadone	4 ng/ml	Synthetic Cannabinoids (JWH-018)	5 ng/ml
Opiates	10 ng/ml	α-PVP	2 ng/ml
PCP	5 ng/ml	Synthetic Cannabinoids (UR-144)	10 ng/ml

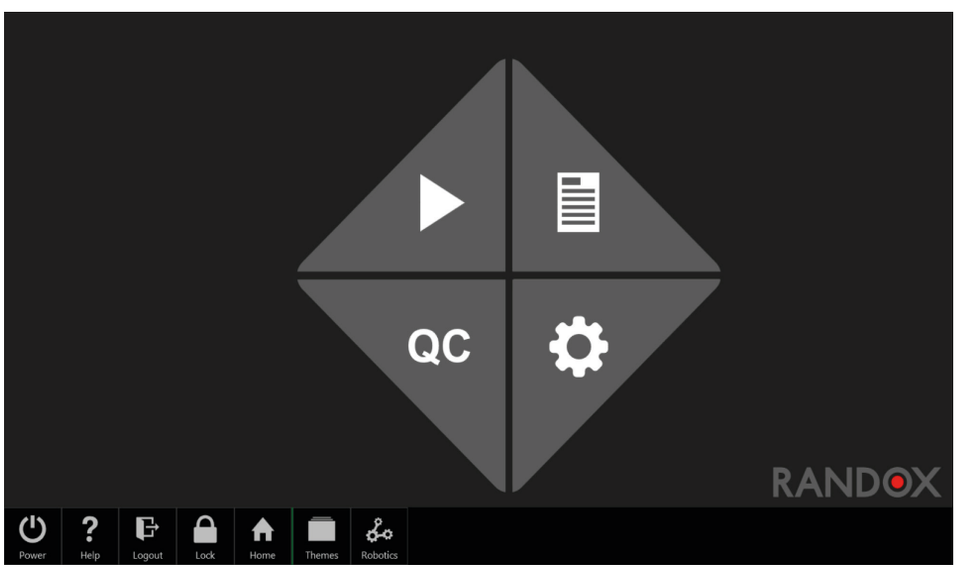
Cat. No. EV4279

Time to Result: 17 minutes

4-fold dilution applied by the collection device has been accounted for in the cut-off material provided

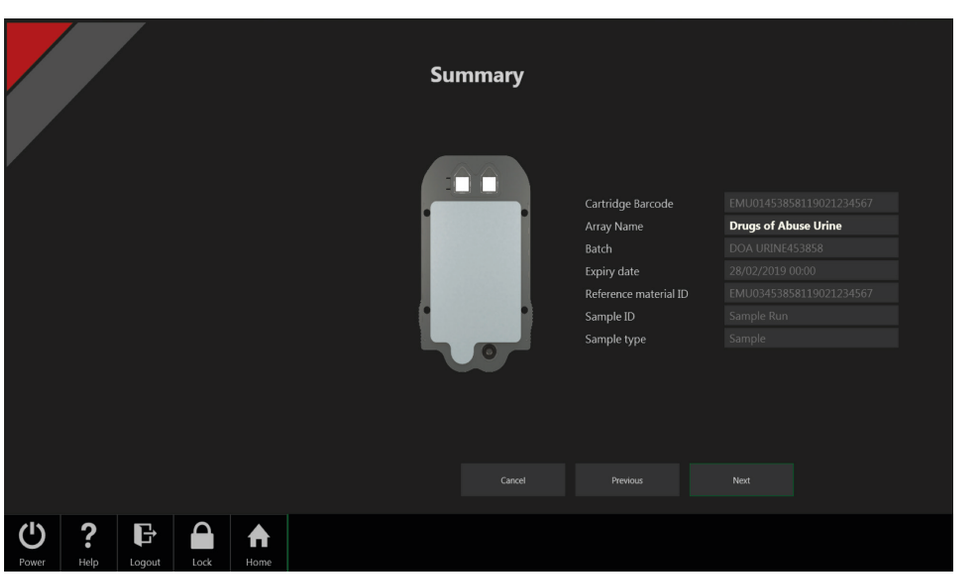
Assay	Cut-Off	Assay	Cut-Off
Fentanyl	1.5 ng/ml	BZG (Cocaine Metabolite)	30 ng/ml
Ketamine	65 ng/ml	Oxycodone	10 ng/ml
LSD	1.5 ng/ml	Tramadol	5 ng/ml
Methamphetamine	70 ng/ml	Cannabinoids (THC)	5 ng/ml
Barbiturates	60 ng/ml	Amphetamine	60 ng/ml
Benzodiazepines I	15 ng/ml	Buprenorphine	1.5 ng/ml
Benzodiazepines II	15 ng/ml	6-MAM	3 ng/ml
Methadone	5 ng/ml	Synthetic Cannabinoids (JWH-018)	20 ng/ml
Opiates	15 ng/ml	α-PVP	2.5 ng/ml
PCP	7 ng/ml	Synthetic Cannabinoids (UR-144)	25 ng/ml

Easy to Use Software



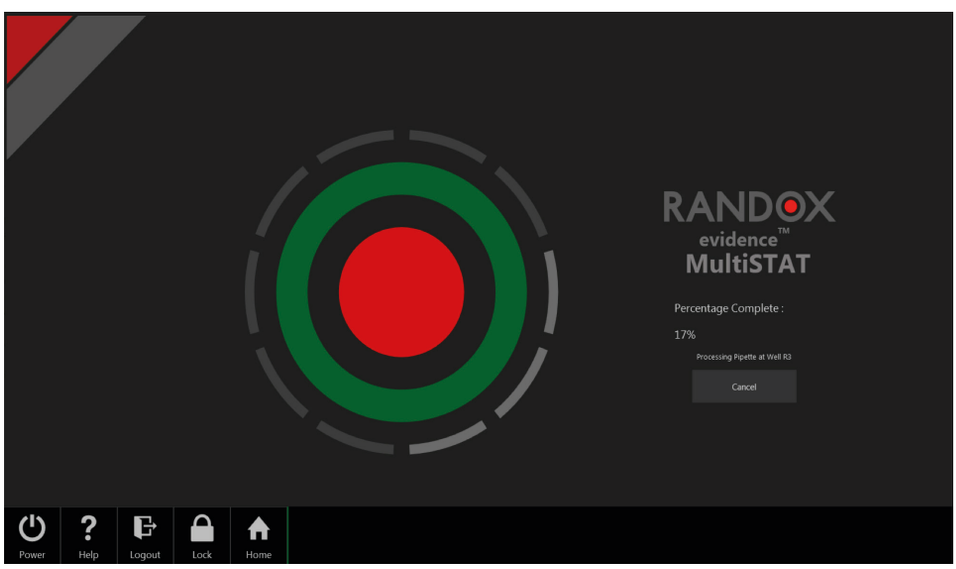
Home Screen

The home screen allows quick access to the Run Test, View QC, View/Export/Print Previous Test, and View Settings functions.



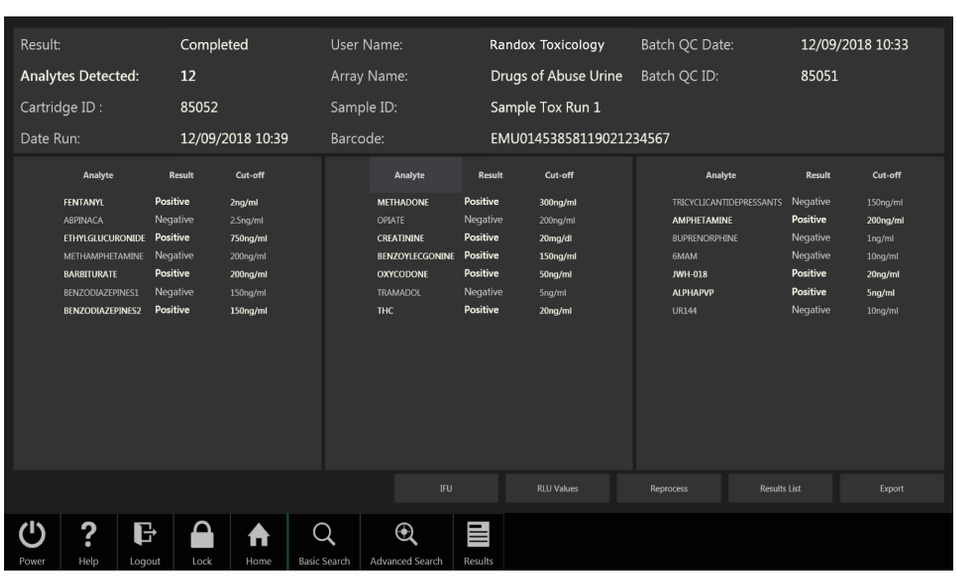
Summary

A summary screen will appear in order for the user to check they have the correct details entered before running their test.



Test Running

As the test is running, the customer can view the progress on screen. Each run will provide up to 44 test results in under 20 minutes.



Results

Results are shown on screen after completion. Results can be exported, saved or printed.

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FULLY AUTOMATED DRUG TESTING

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