RANDOX
QUALITY CONTROL

Improving Laboratory Performance Through Quality Control

What QC format is best for your laboratory?

Complete **QC** solutions for results you can **trust**

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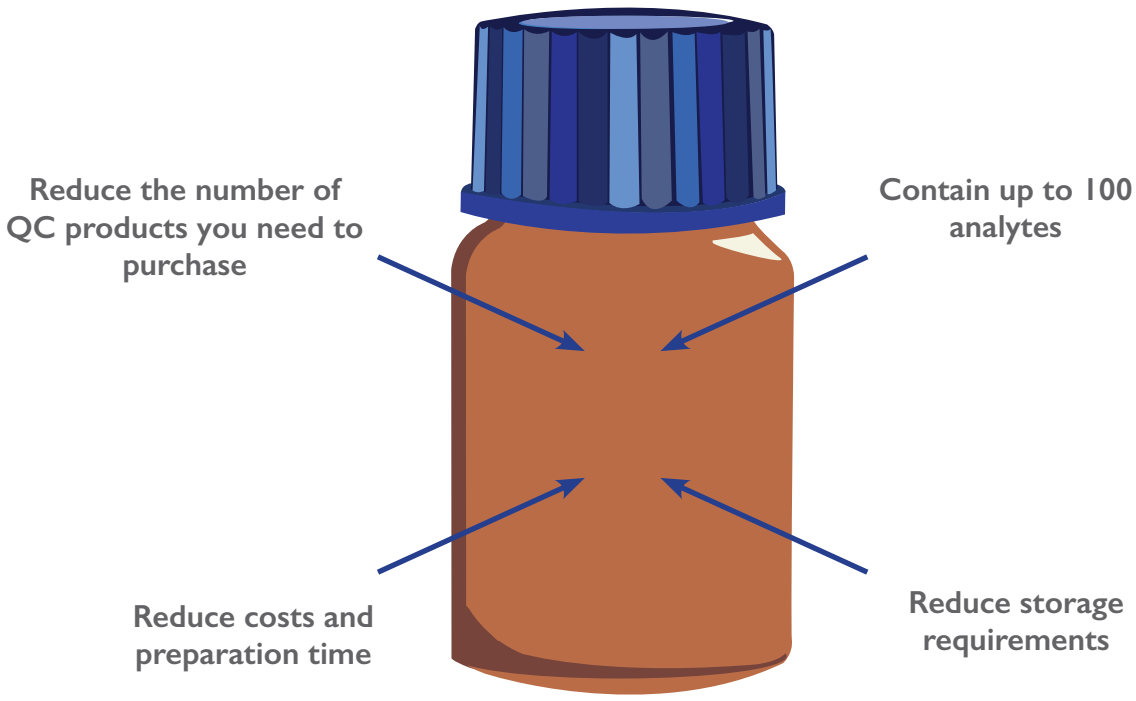
Quality Control (QC) is vitally important in ensuring accurate patient test results, but it can be a time consuming process for laboratory staff. In an industry where budgets and resources are increasingly under pressure, laboratories are continuously looking for ways to ensure high levels of throughput without compromising on accuracy.

In light of this, there has been a significant drive to develop products and services to help streamline QC, provide assistance to laboratories with the interpretation of results, troubleshoot problems and improve overall laboratory performance.

Take the growing number of multi-analyte controls now available which help laboratories reduce the range of quality control products they have to run to cover their complete test menu. Where previously large multi-functional laboratories may have had to routinely use thirty or more individual controls, it is now possible to produce highly accurate results using just one or two. For example, in routine clinical chemistry testing where laboratories are often testing patients for as many as 100 parameters including Cardiac Markers, Lipids, Proteins, Therapeutic Drugs and Immunoassay, labs may previously have had to run multiple, and often costly, single analyte controls. However, by switching to consolidated clinical chemistry controls, labs can now carry out highly accurate QC using just one multi-analyte control serum.

Similarly, in Immunoassay testing, some multi-analyte controls allow labs to run QC tests for 50 or more parameters, including Tumour Markers, Hormones, Therapeutic Drugs, Kidney Function tests and Vitamins, all within the same serum. Additionally, quality control for Maternal Screening is also simplified with consolidated controls. Where previously laboratories may have had to run three or more sera, accurate QC can now be achieved with one, covering all six key parameters measured during first and second trimester screening of Down's Syndrome and Spina Bifida, including PAPP-A and Inhibin-A.

With consolidated controls, laboratories truly are getting more for less.



Greater Choice

Quality Controls come in a range of different formats. It is important to note that there are two distinct types of liquid controls available, liquid ready-to-use and liquid for ease-of-use (better known as liquid frozen), as well as a lyophilised format which is a powder like substance that requires reconstitution.

The benefit of running liquid controls is that the potential for errors in reconstitution or the introduction of contamination is reduced. However, the two types of liquid formats have their own benefits and drawbacks.

Liquid frozen controls need to be thawed before use, however, these controls are considered to be simple and easy to use. They require no reconstitution, so the errors associated with it are removed. Due to the frozen nature of these controls the transportation costs of shipping can be costly, therefore, manufacturers and end users are increasingly offering and purchasing liquid controls in a ready-to-use format.

Liquid ready-to-use controls are arguably the most favoured of the three formats and it is easy to understand why. The controls are simple to use, require no preparation and really can be removed from the packaging and used right away!

Another major benefit of using a liquid ready-to-use control is the fact they are ideal for the POCT (Point of Care Testing) market. Being able to use these controls on the spot is extremely beneficial to POC providers.

Lastly, is **lyophilised**. This is freeze dried material that requires the laboratory professional to reconstitute the sample using sterilised water and mix before use. Although this format is not as easy to use as either liquid control, it does come with many benefits to the laboratory. The enhanced stability of this control sees a shelf life of almost double the two years that come with a liquid control, however, the potential for reconstitution errors and the fact it is not as simple to use lead the majority of people to opt for a more convenient liquid control.

A problem shared is a problem halved

The ability to correctly interpret the resulting data arising from internal QC is vital, however in order to do so adequately, laboratories need to be able to monitor their performance as part of a wider data group.

Picture the following scenario:

You're running routine QC and the results being reported are 25% low to target. What do you do next? Re-run QC and keep your fingers crossed the results are closer to target the next time, or start troubleshooting to find the potential problem?

If you're part of a chain of laboratories you might turn to colleagues in affiliated labs to see if they have been experiencing similar problems. As the saying goes, a problem shared is a problem halved. Having immediate access to the findings and experience of other laboratories running the same tests can help you validate your results, giving you confidence in their accuracy.

However, consider what an independent lab in this situation would do. Without the benefit of colleagues to consult with, the laboratory must start a time-consuming process of troubleshooting the problem, with the possibility of having to re-run QC, further delaying the release of patient results.

Now consider the same laboratory running the same tests but utilising a data management platform to monitor performance, giving them access to data from multiple laboratories running the same tests. Now the laboratory is no longer viewing the lower than expected results in isolation, they can look at the performance of their peers, making troubleshooting a great deal easier and ensuring a faster turnaround of accurate patient results.

Laboratories can use data management platforms to:

When used to their full potential data management systems offer a myriad of benefits, assisting laboratories to manage, interpret and compare QC data with other laboratories with the overall aim of improving analytical performance and ultimately ensuring accurate patient test results.

- Identify trends, instrument errors or reagent issues as soon as they arise, assuring validity and increasing confidence in the accuracy of results.
- Increase confidence in assigned target values.
- Facilitate regulatory requirements and meet ISO 15189 accreditation.
- Minimise false rejections whilst maintaining high error detection through the use of multi-rule QC procedures.
- Improve EQA performance by eliminating any undetected bias.

What Randox has to offer

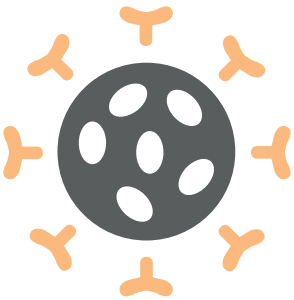
With Randox QC there are a vast array of controls available in liquid ready-to-use, liquid for ease-of-use and lyophilised formats.

Liquid Frozen – Must be stored in a laboratory grade, frost-free freezer. Do not require reconstitution however, do need to be thawed before use. Need to thaw. Controls available include;

- **Clinical Chemistry**
- **Immunoassay**

Lyophilised – Enhanced stability. Suitable for warmer climates, however, reconstitution errors are possible. Controls available include;

- **Chemistry**
- **Immunoassay**
- **Cardiac**
- **Coagulation**
- **HbA1c**
- **Lipids**
- **TDM**



Liquid Ready-to-Use – No preparation required. No reconstitution errors. Ideal for POCT. Controls available include;

- **Liquid Cardiac**
- **Blood Gas**
- **Liquid Urine**
- **Urinalysis**
- **Specific Protein**
- **Ammonia Ethanol**
- **Haematology**
- **Liquid HbA1c**
- **Liquid Tumour Markers**

Conclusion

Many of Randox's controls are 100% human. Our extensive range of Acusera true third party controls contain over 390 routine and esoteric analytes. All our controls are designed to help accurately and reliably identify performance issues and weaknesses with a testing system as well as allowing laboratories to be confident that their patient sample testing is correct.

ACUSERA

Randox is a world leading provider of multi-analyte, third party controls designed to help streamline QC in even the most demanding laboratories. Our unique combination of analytes enables complete test menu consolidation and will ultimately reduce costs without compromising on quality or performance.

Helping to facilitate ISO 15189 accreditation, our complete range of true third party controls will enable unbiased performance assessment with any instrument or method.

Why choose Randox as your third party QC provider?

• **Consolidation:** Delivering unrivalled consolidation and covering clinical decision levels the Acusera range will significantly reduce costs and preparation time without compromising on quality.

• **Value Assignment:** Our unique value assignment process not only ensures the availability of accurate target values for multiple instruments and methods but reduces the time spent assigning controls.

• **Third Party Controls:** Our controls are independently manufactured enabling unbiased performance assessment with any instrument or method.

• **High Quality Material:** As the most commutable controls on the market a matrix that reacts to the test system in the same manner as the patient sample is guaranteed.

• **Stability:** Designed to ensure continuity of lot supply our lyophilised controls have a shelf life of up to 4 years while our liquid controls are stable for up to 2 years from the date of manufacture. Furthermore the extended working stability of our controls will minimise waste and reduce costs.

Acusera portfolio:

Antioxidants
Blood Gas
Cardiac Markers
Clinical Chemistry
Coagulation
Diabetes
Haematology
Immunoassay
Lipids
POCT
Proteins
Therapeutic Drugs
Toxicology
Urine

Quietly Complaining about your current QC?

Designed to deliver significant cost savings without sacrificing on quality, the **Randox Acusera** *range is guaranteed to simplify QC practice in any lab. Just ask one of our 60,000 users worldwide.*

- **Reduce QC costs and preparation** time with consolidated controls combining up to 100 analytes in a single vial.
- **Eradicate the need for additional controls** at extra expense with analytes present at clinical decision levels.
- **Make expensive lot changes a thing of the past** with our exceptional shelf life and stability.
- **Eliminate inconvenient shifts** in QC values when reagent batch is changed with a 100% human matrix for Immunoassay purposes.
- **Ensure target values and stability claims** will not differ from lot to lot with our unrivalled consistency.
- **Increase confidence in QC results** with access to peer group stats uniquely updated every 24 hours.

Simply contact us today for more information

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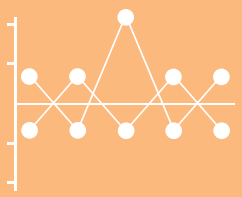
ACUSERA

True third party controls offering complete test menu consolidation

Uniquely combining more than 100 analytes conveniently in a single control, laboratories can significantly reduce costs and consolidate without compromising on quality. As true third party controls, unbiased performance assessment with any instrument or method is guaranteed.



ACUSERA 24•7

Online QC software with real-time peer group statistics

Compatible for use with the Acusera range of third party controls, the Acusera 24•7 software is designed to help laboratories monitor and interpret their QC data. Access to an impressive range of features including interactive charts and real time peer group data generated from our extensive database of laboratory participants, ensures Acusera 24•7 is the most comprehensive package available.

RIQAS

The largest global EQA scheme with over 40,000 lab participants

Comprising over 360 routine and esoteric parameters in 32 comprehensive and flexible EQA programmes, RIQAS is designed to cover all areas of clinical testing. Each programme benefits from a wide range of concentrations, frequent reporting and comprehensive yet user-friendly reports.

find out more