HIGH PERFORMANCE & UNIQUE TESTS
DESIGNED TO MEET THE NEEDS OF YOUR LABORATORY
HIGH PERFORMANCE & UNIQUE TESTS

Cardiology and Lipids | Diabetes | Renal Function | Antioxidants | Clinical Chemistry
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BENEFITS

BENEFITS OF RANDOX REAGENTS

Randox offers an extensive range of third party diagnostic reagents which are internationally recognised as being of the highest quality; producing accurate and precise results.

We have the largest test menu of 118 assays, covering over 100 disease markers including specific proteins, lipids, therapeutic drug monitoring, drugs of abuse, antioxidants, coagulation, diabetes and veterinary testing.

A wide range of formats and methods are available providing greater flexibility and choice for any laboratory size.

In addition to flexible pack sizes and a comprehensive list of analyser applications, we can also provide dedicated reagent packs (Randox Easy Read and Easy Fit reagents) for a wide range of chemistry analysers providing you with freedom of choice from an independent manufacturer.

REDUCE COSTS

We can help create cost-savings for your laboratory through excellent reagent stability; by eliminating the need for costly re-runs through the excellent quality of products; and by offering a range of kit sizes (including smaller kit sizes for niche tests to reduce waste).

EXPAND ROUTINE TESTING

With speciality assays for 195 of the most common clinical chemistry analysers; assays which usually require dedicated equipment (or was previously only available as an ELISA) can now be run on automated biochemistry analysers, allowing your laboratory to expand its routine test menu. E.g. TxBCardio™, cystatin C, adiponectin, and many more.

REDUCE THE RISK OF ERRORS AND HAVE CONFIDENCE IN PATIENT RESULTS

Our traceability of material and extremely tight manufacturing tolerances ensure uniformity across reagent batches reducing lot-to-lot variability and our assays are validated against gold-standard methods; giving you the confidence that you are sending out the correct patient results.

BRING TESTING IN-HOUSE

With smaller kit sizes and excellent reagent stability (most are stable for 28 days on-board the analyser), you don’t have to worry about reagent wastage, allowing testing to be brought in-house.

REDUCE LABOUR

Reduce your time spent on running tests through liquid ready-to-use reagents, automated methods (compared to the traditional laborious ELISA methods used for some tests such as cystatin C or adiponectin); and our easy-fit options.

EXPAND YOUR TEST MENU WITHOUT EXPANDING YOUR LAB

There is no need to buy any extra equipment in order to expand your test menu. Our reagents can be programmed onto the majority of the most common biochemistry analysers.
Lipoprotein(a) - Lp(a)

Cat. No: LP2757
R1 1 x 30ml, R2 1 x 15ml
LP3403
R1 1 x 10ml, R2 1 x 6ml
LP8324
R1 1 x 10ml, R2 1 x 6.5ml

Elevated levels of Lipoprotein(a), (Lp(a)), are considered to be both a causal risk factor and independent genetic marker of atherosclerotic disorders. The major challenge associated with Lp(a) measurement is the size variation of apo(a) within Lp(a). Dependent upon the size of apo(a) in the assay calibrator, many assays under or overestimate apo(a) size in the patient sample.

Numerous commercially available products suffer apo(a) size related bias, resulting in an over estimation of Lp(a) in samples with large apo(a) molecules and an under estimation in samples with small apo(a) molecules. The antibody used in the Randox method detects the complete Lp(a) molecule providing accurate and consistent results. This was proven by the IFCC who developed a gold standard ELISA reference assay and compared 22 commercially available tests. The Randox Lp(a) method displayed the least (minimal) amount of apo(a) size related bias, proving it to be a superior offering.

Adiponectin is a protein hormone, produced and secreted by fat cells (adipocytes), which is normally found in reasonably high concentrations within the blood. Adiponectin regulates the metabolism of lipids and glucose and influences the body's response to insulin and inflammation. It has an important role in a number of metabolic processes such as glucose regulation and fatty acid oxidation. Low adiponectin levels have been linked with several pathologies including metabolic syndrome, cancer and cardiovascular disease.

The major challenge associated with Lp(a) measurement is the size variation of apo(a) within Lp(a). Dependent upon the size of apo(a) in the assay calibrator, many assays under or overestimate apo(a) size in the patient sample.

Randox Adiponectin
- Automated immunoturbidimetric assay - offering a more convenient and time efficient method for adiponectin measurement than traditional ELISA based testing
- Liquid ready-to-use reagents - for convenience and ease of use
- 28 day on-board stability at approximately +10°C - minimising reagent waste
- Applications available - with instrument specific settings for a wide range of analysers
- Adiponectin controls and adiponectin calibrator available

H-FABP is a low molecular-weight (15kD) cytoplasmic protein that is involved in the intracellular uptake and buffering of free fatty acids in the myocardium.

H-FABP is a highly sensitive early rise marker of acute coronary syndrome, detectable as early as 30 minutes following the onset of an ischemic episode. H-FABP concentrations peak at approximately 6-8 hours and return to normal within approximately 24-30 hours. Although H-FABP has similar release kinetics to Myoglobin, it is approximately 15-20 times more cardiac specific, making it a more effective marker of myocardial injury.

Randox H-FABP
- A unique assay - Randox H-FABP is the world's first CE marked automated chemistry assay for Heart-type Fatty Acid Binding Protein
- Highly sensitive - the H-FABP protein is detectable as early as 30 minutes from onset of an ischemic episode
- Liquid ready-to-use reagents - for ease of use and convenience
- Applications available - with instrument specific settings for a wide range of analysers
- Immunoturbidimetric method
- H-FABP controls and H-FABP calibrator available
Aspirin is the foundation of antiplatelet therapy and is widely prescribed in the primary and secondary prevention of cardiovascular disease. However, not all patients receiving aspirin therapy respond in the same way with many suffering from a lack of aspirin effect, also known as aspirin resistance. Clinical research has shown that patients who have a sub-optimum response to their aspirin therapy are over three times more likely to die from a heart attack or stroke than those who respond positively to such therapy. Up to 30% of patients on low dose aspirin therapy are affected by aspirin “resistance”.

The identification of these patients can be significantly improved through the use of Randox TxBCardio™. Results generated by the Randox TxBCardio™ assay can be used to enable timely intervention by clinicians with patients deemed to be at increased risk. Patient management can then be altered via improved patient compliance, increased aspirin dosage levels and/or combination therapies with other drugs.

HDL comprises of several subclass particles, which differ in their sizes, densities and components. These HDL subclasses are considered to play different roles in the progression and regression of arteriosclerosis.

HDL is the scavenger of cholesterol within arterial walls and if HDL3 Cholesterol is in too low numbers the ability to remove this cholesterol is reduced. Therefore it is widely accepted that there is an inverse correlation between HDL3 Cholesterol and CVD risk. Evidence from analysis of the TRIUMPH study of 2,465 acute MI patients, and IHCS study of 2,414 patients who underwent coronary angiography, determined that HDL3 was independently associated with a 50% greater risk for MI in each study.

Randox HDL2/3

- Liquid ready-to-use reagents - for convenience and ease-of-use
- Available on most automated biochemistry analysers - via the use of instrument-specific applications
- Allows for quantification of HDL2-C - by the subtraction of HDL3-C from total HDL-C
- A 2 step procedure - based on patented technology from Denka Seiken
- Open vial stability of 28 days - when stored at +2 to +8°C
- Measuring range of 4 - 60mg/dl - for the measurement of clinically important results
- Demonstrates a strong correlation with the conventional Ultracentrifugation Method
- Measures total HDL3
- HDL3 controls and HDL3 calibrator available - offering the complete testing package
Homocysteine
Cat. No: HY4036 R1 2 x 21.7ml, R2 2 x 4.6ml

Elevated levels of homocysteine can be associated with various disease states including cardiovascular disease, diabetes, dementia, osteoporosis and complications during pregnancy, making homocysteine an essential addition to a laboratory's testing panel.

Randox Homocysteine
• Limited interference - from Bilirubin, Haemoglobin, Triglycerides and Intralipid®, producing more accurate and precise results
• Two-reagent format - for convenience and ease-of-use
• Calibrator provided with kit - simplifying the ordering process
• Liquid ready-to-use reagents - for optimum user convenience
• Excellent linearity - 47.9 μmol/L, ensuring abnormally high levels of homocysteine are detected
• Enzymatic method
• Tri-level cardiac control available

Apolipoprotein C-II
Cat. No: LP3866 R1 2 x 11ml, R2 2 x 5ml

Apolipoprotein C-II (Apo C-II) is an amino acid protein synthesised mainly in the liver and to a lesser extent in the intestine. Apo C-II acts as a co-factor for lipoprotein lipase, an enzyme that hydrolyses triglycerides in chylomicrons and VLDL. Patients have been identified with excessive hypertriglyceridemia due to a deficiency in Apo C-II which leads to an increased risk of the patient developing coronary artery disease.

Additional disease states associated with Apo C-II deficiency include chylomicronemia, xanthomas and recurrent pancreatitis.

Randox Apolipoprotein C-II
• Liquid ready-to-use reagents - for ease of use and convenience
• Excellent sensitivity - 1.48 mg/dl, ensuring depleted levels of Apo C-II are detected
• Limited interference - from Bilirubin, Haemoglobin, Intralipid® and Triglycerides for truly accurate results
• Applications available - with instrument specific settings for a wide range of analysers
• Immunoturbidimetric method
• Apolipoprotein controls and apolipoprotein calibrator 2 available

Apolipoprotein C-III
Cat. No: LP3865 R1 2 x 11ml, R2 2 x 5ml

Apo C-III is an amino acid protein which circulates in plasma in association with triglyceride rich lipoproteins (chylomicrons, VLDL and IDL) and HDL. Apo C-III modulates the uptake of triglyceride-rich lipoproteins by the LDL receptor related protein through the inhibition of lipoprotein lipase. Elevated levels of Apo C-III are associated with both primary and secondary hypertriglyceridemia.

Genetically determined Apo C-III deficiency in humans can increase the rate of triglyceride clearance from plasma by up to seven fold. However elevated Apo C-III levels can be detected in many pathological conditions including type 2 diabetes, hyperbilirubinemia, deficient kidneys and decreased thyroid function. Factors that can influence Apo C-III levels include gender, age, menopause and genetic polymorphisms in the Apo C-III gene.

Randox Apolipoprotein C-III
• Liquid ready-to-use reagents - for ease of use and convenience
• Excellent linearity - 21.7 mg/dl. The approximate normal upper limit for Apo C-III is 9.5 mg/dl; therefore the Randox assay will comfortably detect elevated, potentially harmful levels of Apo C-III
• Limited interference - from Bilirubin, Haemoglobin, Intralipid® and Triglycerides for truly accurate results
• Applications available - with instrument specific settings for a wide range of analysers
• Immunoturbidimetric method
• Apolipoprotein controls and apolipoprotein calibrator 2 available
**Randox Fructosamine**

- High performance method - the Randox Fructosamine assay employs an enzymatic method which offers improved specificity and reliability compared to conventional NBT-based methods.
- The Randox enzymatic method does not suffer from non-specific interferences unlike other commercially available fructosamine assays.
- Liquid ready-to-use reagents - for ease of use and convenience
- High measuring range - 0.004-1.23 mg/dl. The normal range for Apo E is approximately 0.4-4.5 mg/dl, therefore the Randox assay will ensure abnormal Apo E levels are detected.
- Limited interference - from Bilirubin, Haemoglobin, Intralipid® and Triglycerides for truly accurate results.
- Applications available - with instrument specific settings for a wide range of analysers.
- Immunoturbidimetric method.
- Apolipoprotein control and apolipoprotein calibrator 2 available.

**Fructosamine**

- Cat. No: FR3133, FR4030
- R1 5 x 25ml, R2 5 x 6.3ml

Fructosamine is a mid-term indicator of diabetic control as it can provide information on a person’s average blood glucose levels over the preceding 14-21 days.

Due to the shorter time span of fructosamine, it is often used to evaluate the effectiveness of medication changes and to monitor the treatment of gestational diabetes. Fructosamine is also particularly useful in situations where HbA1c cannot be reliably measured e.g. haemolytic anaemia, thalassemia or with genetic haemoglobin variants.

**Non-Esterified Fatty Acids - NEFA**

- Cat. No: FA115
- R1 3 x 10ml, R2 3 x 20ml

Non-esterified fatty acids (NEFA) are molecules released from triglycerides by the action of the enzyme lipase and are transported in the blood bound to albumin. They contribute only a small proportion of the body’s fat, but provide a large part of its energy.

Measurement of NEFA is particularly important in diabetes where insulin deficiency results in the metabolism of fat. Levels are also frequently increased in obese patients.

**Randox Apolipoprotein E**

- Cat. No: LP3864
- R1 2 x 1 ml, R2 2 x 5ml

Apolipoprotein E (Apo E) is an amino acid protein synthesised mainly in the liver but also in the brain, spleen, lungs, adrenals, ovaries, kidneys, muscle cells and in macrophages.

The polymorphism of Apo E has been implicated in several diseases including cardiovascular disease and neurodegenerative diseases such as Alzheimer’s.

Apo E deficiency causes high serum cholesterol and triglyceride levels and leads to premature atherosclerosis. A number of factors can affect Apo E concentrations including the genetic polymorphism, oral contraceptive intake, puberty, BMI and age.

**Randox NEFA**

- Cat. No: FA115
- R1 3 x 10ml, R2 3 x 20ml

Non-esterified fatty acids (NEFA) are molecules released from triglycerides by the action of the enzyme lipase and are transported in the blood bound to albumin. They contribute only a small proportion of the body’s fat, but provide a large part of its energy.

Measurement of NEFA is particularly important in diabetes where insulin deficiency results in the metabolism of fat. Levels are also frequently increased in obese patients.

**Randox Fructosamine**

- Cat. No: FR3133, FR4030
- R1 4 x 19.8ml, R2 4 x 6.9ml

Fructosamine is a mid-term indicator of diabetic control as it can provide information on a person’s average blood glucose levels over the preceding 14-21 days.

Due to the shorter time span of fructosamine, it is often used to evaluate the effectiveness of medication changes and to monitor the treatment of gestational diabetes. Fructosamine is also particularly useful in situations where HbA1c cannot be reliably measured e.g. haemolytic anaemia, thalassemia or with genetic haemoglobin variants.
Randox Cystatin C

- Liquid ready-to-use reagents - for ease of use and convenience
- Extensive measuring range - 0.4-10 mg/l. The approximate normal range for cystatin C is 0.57-1.05 mg/l therefore the Randox Cystatin C assay will comfortably detect abnormal concentrations
- Excellent on board stability - 28 days at +10°C minimising reagent waste
- Latex Enhanced Immunoturbidimetric method
- Cystatin C control and cystatin C calibrator available

Cystatin C

Cat. No: CYS4004

- R1 2 x 17.6ml, R2 2 x 6.1ml

Cystatin C is a small (13 kDa) cysteine proteinase inhibitor that is produced at a constant rate by all nucleated cells. The small molecular weight of cystatin C allows it to be completely removed and broken down by the kidneys; levels therefore remain steady if the kidneys are working efficiently and the Glomerular Filtration Rate (GFR) is normal.

Cystatin C is a particularly useful marker of renal function in patients where creatinine measurements are not reliable e.g. individuals who are obese, malnourished, have liver cirrhosis or reduced muscle mass. Furthermore, unlike creatinine, cystatin C does not have a ‘blind area’ - up to 50% of renal function can be lost before significant creatinine elevation occurs. Cystatin C is extremely sensitive to very small changes in GFR and is therefore capable of detecting early stage kidney dysfunction.

Liquid Enzymatic Creatinine

Cat. No: CR8122, CR8317, CR4037

- R1 4 x 65ml, R2 4 x 32.3ml
- R1 4 x 20ml, R2 4 x 9.5ml
- R1 4 x 50ml, R2 4 x 19.5ml

Creatinine clearance in the kidney gives a measure of the Glomerular Filtration Rate (GFR) and is the standard marker for renal function.

The enzymatic method of creatinine measurement displays several advantages over the JAFFE method:
- Highly specific
- No interferences from endogenous creatine as it is not involved in the pathway
- Eliminates the requirement for urea determination

- Superior methodology - when compared to other commercially available ketone detection tests. For example, the nitroprusside method used in semi-quantitative dipstick tests only detects acetone and acetoacetate, not D-3 Hydroxybutyrate. As D-3 Hydroxybutyrate is the most abundant ketone during ketosis the measurement of this analyte is essential - the Randox D-3-Hydroxybutyrate assay facilitates this analysis
- Wide measuring range - 0.1-5.75 mmol/l, comfortably detecting abnormal levels of D-3-Hydroxybutyrate in a sample
- Standard supplied with kit - simplifying the ordering process
- Applications available - with instrument specific settings for a wide range of analysers
- Suitable for use in serum - reducing risk of false negatives
- Enzymatic method
- Complementary controls and calibrators available

D-3-Hydroxybutyrate (Ranbut)

Cat. No: RB1007, RB1008

- 10 x 10ml
- 10 x 50ml

Testing for D-3-Hydroxybutyrate can aid in the diagnosis of ketosis which is particularly important in diabetic ketoacidosis. Ketosis occurs when carbohydrates are not available and the body uses fat for energy production.

Metabolism of fatty acids in the liver results in the production of ketone bodies, consisting of acetone, acetoacetate and D-3 Hydroxybutyrate. Levels of ketone bodies in the blood are elevated (ketosis) when synthesis exceeds breakdown. D-3-Hydroxybutyrate is the major ketone body in the blood - during ketosis D-3-Hydroxybutyrate levels increase more than levels of acetone and acetoacetate making this the more sensitive marker of ketosis.

Randox D-3-Hydroxybutyrate

- Superior methodology - when compared to other commercially available ketone detection tests. For example, the nitroprusside method used in semi-quantitative dipstick tests only detects acetone and acetoacetate, not D-3 Hydroxybutyrate. As D-3 Hydroxybutyrate is the most abundant ketone during ketosis the measurement of this analyte is essential - the Randox D-3-Hydroxybutyrate assay facilitates this analysis
- Wide measuring range - 0.1-5.75 mmol/l, comfortably detecting abnormal levels of D-3 Hydroxybutyrate in a sample
- Standard supplied with kit - simplifying the ordering process
- Applications available - with instrument specific settings for a wide range of analysers
- Suitable for use in serum - reducing risk of false negatives
- Enzymatic method
- Complementary controls and calibrators available

Randox Cystatin C

- Liquid ready-to-use reagents - for ease of use and convenience
- Extensive measuring range - 0.4-10 mg/l. The approximate normal range for cystatin C is 0.57-1.05 mg/l therefore the Randox Cystatin C assay will comfortably detect abnormal concentrations
- Excellent on board stability - 28 days at +10°C minimising reagent waste
- Latex Enhanced Immunoturbidimetric method
- Cystatin C control and cystatin C calibrator available

Randox Liquid Enzymatic Creatinine

- Enzymatic method - offering superior specificity when compared to traditional Jaffé creatinine assays
- Liquid ready-to-use reagents - for optimum ease of use and convenience
- Limited interference - from Bilirubin, Haemoglobin, Intralipid® and Triglycerides, for truly accurate results and ensuring it is suitable for use with paediatric samples
- Extensive measuring range - 9-2517 μmol/l. The approximate normal creatinine range for men is 53-106 μmol/l and for women is 44-88 μmol/l, therefore the Randox test will comfortably detect abnormal levels of creatinine within a sample
- No sample blank required
- Complementary controls and calibrators available
**Microalbumin**

**Cat. No:**
- MA2423: R1 3 x 100ml, R2 5 x 7ml
- MA2426: R1 1 x 60ml, R2 1 x 7ml
- MA3828: R1 6 x 20ml, R2 2 x 8ml
- MA8056: R1 2 x 20ml, R2 2 x 6.6ml
- MA8325: R1 1 x 20ml, R2 1 x 4.6ml

The microalbumin assay detects very low levels of albumin in urine. The detection of albumin in urine can be an indicator of kidney injury and can result in irreversible damage if left untreated. Low albumin concentrations in the urine (20-200 mg/day) are the earliest marker of renal damage and therefore enable preventative measures to be taken.

Microalbumin testing can identify individuals with diabetic nephropathy approximately 5-10 years earlier than proteinuria tests helping reduce the incidence of end stage renal disease.

**Randox Microalbumin**

- **Calibrator supplied with kit** - simplifying the ordering process
- **Immunoturbidimetric method** - enabling sensitive and accurate albumin assessment
- **Liquid ready-to-use reagents** - for ease of use and convenience
- **Excellent sensitivity** - of 5.1 mg/l, ensuring even low albumin concentrations are detected
- **Applications available** - with instrument specific settings for a wide range of analysers
- **Microalbumin controls available**

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**Total Antioxidant Status - TAS**

**Cat. No:** NX2332 5 x 10ml

The antioxidant defence system has many components. A deficiency in any of these components can cause a reduction in the overall antioxidant status of an individual.

Reduction in total antioxidant status (TAS) has been implicated in a number of disease states including heart disease, rheumatoid arthritis, diabetes and cancer.

TAS analysis is also useful in relation to retinopathy and age-related conditions - these can be monitored to promote supplementation and disease prevention.

**Randox TAS**

- **Suitable for automation** - other commercially available products are based on ELISA technology which does not offer the same level of convenience and efficiency as the Randox TAS assay
- **Standard supplied with kit** - simplifying the ordering process
- **Excellent measuring range** - 0.21-2.94 mmol/l
- **Applications available** - with instrument specific settings for a wide range of analysers
- **Colorimetric method**
- **Total antioxidant status control and total antioxidant status standard available**

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**Glutathione Peroxidase (Randox Ransel)**

**Cat. No:**
- RS504: 8 x 6.5ml
- RS505: 8 x 10ml

Ransel measures glutathione peroxidase which has a direct correlation with selenium levels.

Selenium is an essential trace element involved in the aetiology of a number of diseases. At normal concentrations selenium has a protective effect against several disease states however this protection is lost at lower concentrations and conversely, selenium can be toxic at high concentrations. It is therefore important to monitor selenium levels to ensure they are kept within the normal range.

The risk factors associated with abnormal selenium concentrations include age, diet, smoking, stress, autoimmune diseases and chemotherapy.

**Randox Glutathione Peroxidase**

- **Enzymatic method** - enabling sensitive and accurate glutathione peroxidase assessment
- **Excellent sensitivity** - of 75 UI ensuring even low glutathione peroxidase concentrations are detected
- **Applications available** - with instrument specific settings for a wide range of analysers
- **Glutathione peroxidase (Randox Ransel) control and calibrator available**
**Glutathione Reductase**

**Cat. No:** GR2368  
**R1 5 x 5ml, R2 5 x 3ml**

Glutathione reductase is required for the regeneration of reduced glutathione which is important for normal cellular metabolism. This enzyme is often discussed in association with glutathione peroxidase, which requires reduced glutathione for activation.

Glutathione reductase is responsible for maintaining levels of reduced glutathione which has many important functions in the cell. Glutathione plays a role in protein folding and the maintenance of reduced pools of vitamin C and E. Depleted levels of glutathione reductase can lead to haemolysis.

**Randox Glutathione Reductase**

- Lyophilised reagents - for enhanced stability
- Excellent measuring range - 9.69-387 U/l
- Suitable for use with a variety of sample types - serum, plasma and erythrocytes
- Applications available - with instrument specific settings for a wide range of analysers
- UV method
- Glutathione reductase control and glutathione reductase calibrator available

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**Superoxide Dismutase (Randox Ransod)**

**Cat. No:** SD125  
**5 x 20ml**

Superoxide dismutase (SOD) catalyses the dismutation of superoxide into oxygen and hydrogen peroxide, consequently providing protection against superoxide which is one of the most common free radicals in the body. The enzyme acts by repairing and/or reducing the amount of damage done to cells.

Ransod (Randox Superoxide Dismutase) can be used in the diagnosis of diseases associated with abnormal SOD levels e.g. neurological disorders such as Amyotrophic Lateral Sclerosis (ALS). SOD can also be used to treat various ailments including arthritis, burns and inflammatory diseases.

The fact that SOD levels have been found to decrease with age, while the level of free radicals in the body has been found to increase, suggests this enzyme plays a major role in the ageing process.

**Randox Superoxide Dismutase**

- Lyophilised reagents - for enhanced stability
- Standard supplied with kit - simplifying the ordering process
- Multiple analytical uses - clinical, veterinary, sports, cosmetics and pharma
- Applications available - with instrument specific settings for a wide range of analysers
- Colorimetric method
- Superoxide dismutase (Randox Ransod) control available

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**Aldolase**

**Cat. No:** AD189  
**5 x 20ml**

Aldolase is an enzyme responsible for converting glucose into energy. In humans the approximate normal aldolase range is 1 - 7.6 U/L, with elevated levels detected in the blood of individuals with skeletal muscle damage and liver disease. In skeletal muscle diseases, including muscular dystrophy, damaged cells lyse therefore releasing aldolase into the blood. Levels also rise in conditions such as injury and gangrene, however remain normal in situations where weakness is caused by a neurological disease e.g. multiple sclerosis.

**Randox Aldolase**

- Lyophilised reagents - for enhanced stability
- Excellent measuring range - 1.73-106 U/l
- Applications available - with instrument specific settings for a wide range of analysers
- UV method
- Aldolase controls and calibrator available - for a complete quality testing package
**Vanadate Oxidation Bilirubin**

**Cat. No:**
- BR9765: R1 4 x 14ml, R2 4 x 6ml (Direct)
- BR9766: R1 4 x 68ml, R2 4 x 25ml (Total)
- BR4060: R1 4 x 20ml, R2 4 x 8ml (Direct)
- BR4061: R1 4 x 20ml, R2 4 x 8ml (Total)
- BR8132: R1 4 x 52.2ml, R2 4 x 20ml (Total)
- BR8133: R1 4 x 52.2ml, R2 4 x 20ml (Direct)
- BR8376: R1 4 x 20ml, R2 4 x 8ml (Direct)
- BR8377: R1 4 x 20ml, R2 4 x 8ml (Total)

Bilirubin levels are important during the process of diagnosing and monitoring liver diseases including hepatitis, cirrhosis and gallstones. Other conditions characterised by elevated bilirubin concentrations include haemolytic anaemia and sickle cell disease. Bilirubin particularly needs to be tested in new-borns where jaundice has not resolved itself within 8-14 days- this can indicate a problem with the formation of the bile ducts or irregular metabolism in the liver.

**Randox Vanadate Oxidation Bilirubin**

- **Superior Vanadate Oxidation methodology** - Unlike diazo-based methods, the vanadate oxidation method does not suffer from interference from non-conjugated bilirubin
- **Limited interference** - From Haemoglobin and Lipids
- **Liquid ready-to-use reagents** - For ease of use and convenience
- **No pre-step required** - Other commercially available bilirubin assays may involve a pre-step, requiring two assay components to be mixed together. The Randox Vanadate Oxidation method eliminates this step, increasing testing efficiency
- **Applications available** - With instrument specific settings for a wide range of analysers
- **Stable up to expiry** - When stored at +2°C to +8°C
- **Complementary controls and calibrators available**

**5th Generation Bile Acids**

**Cat. No:**
- BI7982: R1 6 x 50ml, R2 6 x 18ml
- BI3863: R1 2 x 18ml, R2 2 x 8ml

Bile acids is a highly sensitive marker of liver function, enabling the early confirmation of liver disease. Bile acids is also the most accurate method for diagnosing obstetric cholestasis in pregnant women, a common liver condition affecting women during the second and third trimester of pregnancy. The condition restricts the flow of bile through the gallbladder resulting in a build-up of bile acids in the liver. As a consequence, bile acids leak into the bloodstream where they are detected at increased levels.

**Randox 5th Generation Bile Acids**

- **Superior methodology** - The Randox 5th Generation Bile Acids assay utilises an advanced enzyme cycling method which displays outstanding sensitivity and precision when compared to traditional enzymatic based tests
- **Liquid ready-to-use reagents** - For ease of use and convenience
- **Excellent linearity** - 188 μmol/l. The normal upper range of Bile Acids in a fasting serum sample is 10 μmol/l
- **Applications available** - With instrument specific settings for a wide range of analysers
- **Complementary controls and calibrators available**

**Glucose-6-Phosphate Dehydrogenase - G-6-PDH**

**Cat. No:**
- PD410: R1 1 x 100ml, R2 1 x 2ml (UV)
- PD2616: 750T (Qualitative screen test)

G-6-PDH is found in every cell in the body and it is used to break down carbohydrates and release their energy into the body. Depleted levels of G-6-PDH cause red blood cells to become particularly vulnerable to haemolysis. If red blood cell production is not subsequently increased to compensate for this breakdown, haemolytic anaemia can occur.

**Randox G-6-PDH**

- **Superior stability** - 4 weeks once reconstituted and stored at +2°C to +8°C. Many other commercially available assays offer just 5 days stability leading to greater product wastage
- **Minimal interference** - The sample pre-wash step included in the Randox G-6-PDH testing method serves to purify the sample leading to no known interferences being observed
- **Lyophilised reagents** - For enhanced stability
- **Applications available** - With instrument specific settings for a wide range of analysers
- **G-6-PDH control available**
Immunoglobulin E (IgE) is normally found in blood in trace amounts. IgE is an antibody released by the immune system as a defence mechanism when it believes the body is at risk. IgE determinations are used as an aid in the diagnosis of allergic diseases.

Testing for IgE will not diagnose a specific allergy however increased concentrations will indicate that an allergic response has occurred, facilitating further investigation.

Copper is an essential trace element found in human nutrition and is a component of many metalloenzymes. Copper is important for a number of functions including the production of connective tissues, production of energy in cells as well as nervous system and brain functions.

Copper testing is predominantly carried out to diagnose Wilson's disease, an inherited disorder which is associated with excess copper storage in the brain, liver and other organs. This copper toxicity can cause side effects such as nausea, jaundice, fatigue and changes in behaviour. Long term copper toxicity can also result in liver and kidney damage.

Copper deficiency can also occur however this is less common. Menkes Kinky Hair Syndrome is a genetic condition affecting children which leads to copper deficiency in the brain and liver. This condition results in developmental problems, seizures and is characterised by unusual kinky, brittle hair which is often grey in colour.

Zinc is an essential trace metal which is required for a number of functions including cell and enzyme production, the metabolism of carbohydrates, fat and protein from dietary intake and wound healing.

Zinc deficiency is often the result of a low dietary intake and can lead to a number of problems including impaired immune and cognitive functions, foetal growth and development problems during pregnancy, liver and kidney disease, diabetes and malabsorption syndrome.
Acetaminophen (Paracetamol)
Acid Phosphatase
Activated Partial Thromboplastin Time (APTT)
Adiponectin
Albumin
Aldolase
Alkaline Phosphatase
Alpha-1-Acid Glycoprotein
Alpha-1-Antitrypsin
Alanine Aminotransferase (ALT)
Ammonia
Amylase
Amylase (Pancreatic)
Anti-Streptolysin O (ASO)
Antithrombin III
Apolipoprotein A-I
Apolipoprotein A-II
Apolipoprotein B
Apolipoprotein C-II
Apolipoprotein C-III
Apolipoprotein E
Aspartate Aminotransferase (AST)
Barbiturates
Benzodiazepines
ß2 Microglobulin
Bile Acids
Bilirubin (Total/Direct)
Calcium
Cannabinoids
Carbamazepine
Ceruloplasmin
Chloride
Cholesterol (Total)
Cholesterol (HDL)
Cholesterol (HDL3)
Cholesterol (LDL)
Cholesterol (sLDL)
Cholinesterase
CK-MB
CK-NAC
CO2 Total
Cocaine Metabolite
Complement C3
Complement C4
Copper
Creatine
CRP
CRP (Canine)
CRP (Full Range)
CRP (High Sensitivity)
Cystatin C
Digoxin
Ecstasy
EDDP
Ethanol
Fibrinogen
Ferritin
Fructosamine
G-6-PDH
Gamma GT
Gentamicin
GLDH
Glucose
Glutamate
Glutamine
Glutathione Peroxidase (Ransel)
Glutathione Reductase
Glycerol
Haemoglobin
Haptoglobin
HbA1c
Heart-type Fatty Acid Binding Protein (H-FABP)
Homocysteine
D-3-Hydroxybutyrate (Ranbut)
IgA
IgE
IgG
IgM
Iron
Iron/UIBC
L-Lactate
Lactate Dehydrogenase
Leucine Aminopeptidase (LAP)
Lipase
Lipoprotein (a)
Lithium
Magnesium
Methodone
Methamphetamine
Microalbumin
Myoglobin
NEFA (Non-Esterified Fatty Acids)
Opiates
Phenobarbital
Phenyltoin
Phosphorus
Potassium
Pregnancy Test
Prothrombin Time (PT)
Rheumatoid Factor (RF)
Salicylate
Sodium
sPLA2-11A
Superoxide Dismutase (Ransod)
Syphilis
Total Iron Binding Capacity (TIBC)
Total Antioxidant Status (TAS)
Total Protein
Transferrin
Transthyretin (Prealbumin)
Triglycerides
Tx8Cardio™
Urea
Uric Acid
Urinary Protein
Valproic Acid
Zinc
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