RANDOX REAGENTS

HIGH QUALITY TESTS FOR THE DIAGNOSIS OF DIABETES AND THE MONITORING OF ITS COMPLICATIONS

RANDOX DIABETES PORTFOLIO

Diagnosis and Monitoring
Glucose, Fructosamine, HbA1c

Complications Monitoring
Albumin, $ß_2$Microglobulin, Creatinine, Cystatin C, D-3-Hydroxybutyrate, Microalbumin, NEFA

Associated Biomarkers
Adiponectin

RANDOX DIABETES REAGENTS

Randox is committed to supporting the advancement of diabetes related testing and offers a comprehensive range of high quality reagents. From diabetes diagnosis to the monitoring of associated complications, Randox diabetes reagents cover the full spectrum of laboratory testing requirements.

Diabetes represents one of the biggest challenges for healthcare today as the number of people both at risk of developing, as well as living with this disease continues to increase across the world.

CONTENTS

KEY

(S) **INDICATES STANDARD INCLUDED IN KIT** and is for manual and semi-automated use only

INDICATES LIQUID OPTION AVAILABLE

UF **UNIQUE FEATURE-** When you see this symbol you will know that this feature is unique to the Randox product

NP **NICHE PRODUCT -** When you see this symbol you will know that Randox have one of the only automated biochemistry assays available on the market

CLINICAL SIGNIFICANCE

BIOLOGICAL SIGNIFICANCE

R

RANDOX PRODUCT

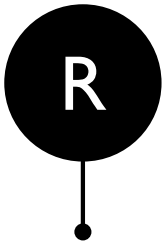
ORDERING INFORMATION

*Not all products are available for diagnostic use in USA. Please contact your local representative for further information.

GLUCOSE

CLINICAL SIGNIFICANCE

- Monitoring glucose levels are significant to **diagnose and monitor** diabetes



RANDOX GLUCOSE

- **16 different kit options available** ensuring laboratories of all sizes can find a kit to suit their needs
- **Liquid and lyophilised formats available** offering greater choice
- **GOD-PAP and Hexokinase methodologies available satisfying** individual laboratory testing preferences
- **Applications available for an extensive range of biochemistry analysers** detailing instrument specific settings for the convenient use of Randox Glucose assays on a variety of systems
- **Complementary controls and calibrators available** for a complete testing package

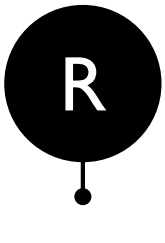
ORDERING INFORMATION

	DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
HEXOKINASE	Glucose	4 x 100ml (S)	GL1611
	Glucose	960T	GL2822
	Glucose	4 x 50ml	GL3881
	Glucose	R1 5 x 100ml, R2 3 x 40ml	GL7954
	Glucose	R1 4 x 51ml, R2 3 x 20ml	GL3816
	Glucose	R1 4 x 20ml, R2 4 x 6.5ml	GL8319
GOD-PAP	Glucose	4 x 68ml	GL8038
	Glucose	10 x 100ml	GL7952
	Glucose	10 x 100ml (S)	GL364
	Glucose	6 x 500ml (S)	GL366
	Glucose	2 x 500ml (S)	GL1021
	Glucose	4 x 20ml	GL3981
	Glucose	2 x 500ml (S)	GL2614
	Glucose	6 x 100ml (S)	GL2623
	Glucose	9 x 51ml	GL3815
	Glucose	4 x 20ml	GL8318

HbA1c

CLINICAL SIGNIFICANCE

- HbA1c levels are directly correlated with **increased risk of diabetes related deaths**, making HbA1c testing vital
- HbA1c is used in both **diagnosis and long-term monitoring** of diabetes



RANDOX HbA1c

- **Extensive measuring range** of 1.8-17.1%. HbA1c levels in controlled diabetics are approximately 6-8% therefore Randox HbA1c will more than comfortably detect abnormal analyte levels
- **Liquid ready-to-use reagents** for convenience and ease of use
- **Latex Enhanced Immunoturbidimetric method** delivering high performance
- **Applications available for an extensive range of biochemistry analysers** detailing instrument specific settings for the convenient use of Randox HbA1c assays on a variety of systems
- **Complementary HbA1c calibrator and controls available** offering a complete testing package

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
HbA1c	R1 3 x 14ml, R2 3 x 14ml	HA3830
HbA1c	R1 2 x 14.2ml, R2 2 x 14.2ml	HA8043
HbA1c	R1 4 x 7.8ml, R2 4 x 7.8ml	HA8321
Haemoglobin Denaturant Reagent	2x50ml	HA3450

FRUCTOSAMINE

BIOLOGICAL SIGNIFICANCE

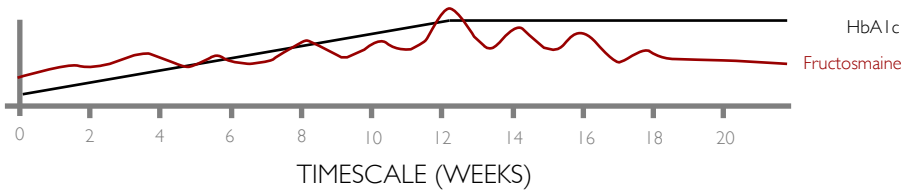
- Serum fructosamine is formed by non-enzymatic glycosylation of serum proteins, **predominantly albumin**
- The degree of protein glycation is **proportional to concentration of plasma glucose** over the lifespan of the protein
- Albumin, the most common serum protein, typically accounts for **80% of all fructosamine**
- As serum proteins have a shorter lifespan (between 14-21 days), the measurement of fructosamine reflects **average glucose levels over a 2-3 week period**

CLINICAL SIGNIFICANCE

Fructosamine testing enables an accurate review of a person's average blood glucose level, and therefore diabetic status, over a period of 2-3 weeks. Fructosamine testing is required for:

- **Medication changes –** Testing fructosamine levels enable a faster review of a diabetic patient's glucose levels (therefore health) when introduced to medicine or when there is a change in medicine.
- **Gestational diabetes –** Gestational diabetes comes with considerable risks to both the mother and baby. Risks include: Premature birth (including jaundice or breathing difficulties); immediate infant health problems (e.g. low blood sugar); miscarriage or stillbirth. Therefore monitoring the mother's and infant's glucose levels (therefore health) during pregnancy is crucial. Fructosamine offers the ability to monitor glucose levels effectively according to the patient's medication and diet (including any changes).
- **Red blood cell concerns -** If there is concern over a patient's haemoglobin status, testing glycated haemoglobin (HbA1c) will not be accurate, and as such testing the glycated protein (fructosamine) offers a more significant result. Haemoglobin issues are of particular concern in the inherited disorder thalassemia or other haemoglobinopathies.
- **Comorbidities -** When patients have comorbidities that may impact upon the erythrocyte life span, it can falsely elevate or lower HbA1c levels. These include: liver disease, kidney failure, haemolytic anaemia, HIV, iron deficiency anaemia and aplastic anaemia.

FIG.1. Visual time representation of rise and fall of fructosamine and HbA1c (not to scale)



RANDOX FRUCTOSAMINE

UF **Enzymatic methodology** enabling more sensitive and specific testing of patient samples. This method does not suffer from non-specific interferences that can be seen with NBT-based methods. Problems that can occur with NBT methods include:

- Artificially high results if there are higher levels of urate or glutathione in the blood
- Vitamin C >227µmol/L interferes significantly
- Bilirubin >32.2µmol/L can falsely elevate fructosamine levels
- Haemolysis can falsely reduce fructosamine levels
- Colorimetric NBT methodology is affected by changes in ambient temperatures

- **Liquid ready-to-use reagents** for convenience and ease of use
- **Applications available for a wide range of biochemistry analysers** detailing instrument-specific settings for the convenient use of Randox Fructosamine on a variety of systems
- **Fructosamine controls and fructosamine calibrator available** for a complete testing package

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Fructosamine	R1 5 x 25ml, R2 5 x 6.3ml	FR3133
Fructosamine	R1 4 x 19.8ml, R2 4 x 6.9ml	FR4030

CYSTATIN C

BIOLOGICAL SIGNIFICANCE

- Cystatin C is a small protein that is produced by all cells that contain a nucleus (i.e. the **majority of cells in the body**). In healthy people it is produced and destroyed at a constant rate and is found in a variety of body fluids such as blood, spinal fluid, and breast milk.
- The small molecular weight (13 kDa) 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 within a healthy range.
- When the kidneys are functioning normally, concentrations of cystatin C in the blood are stable, but as kidney function deteriorates (as seen in people with type 2 diabetes), the concentrations begin to rise, **often before those of creatinine**. This increase occurs as the GFR falls and is usually detectable before there are any symptoms of kidney disease.

CLINICAL SIGNIFICANCE

- Diabetes mellitus is the most common cause of CKD. It is the **leading cause of new patients requiring renal replacement therapy**, accounting for 40%, 34%, and 30% of cases in United States, Germany and Australia respectively[1].
- Cystatin C is a **more sensitive marker of kidney function than creatinine** (either Jaffe or Enzymatic) and is especially useful in patients for whom the measurement of creatinine is unreliable.
- Cystatin C is **virtually unaffected by non-renal factors** (unlike creatinine) such as muscle mass, weight, height, age, gender, diet and drugs.
- Cystatin C is **more sensitive to changes in the "creatinine blind" range** 40-70ml/min/1.73m^2. Up to 50% of renal function can be lost before a significant creatinine change occurs[1].
- Patient groups which **benefit most from cystatin C measurement** are:
  - people with diabetes or skeletal muscle diseases
  - those with mild to moderate kidney disease
  - patients with acute renal failure
  - elderly people (> 50 years)
  - children
  - pregnant women with suspected pre-eclampsia
  - renal transplant recipients
- Cystatin C can be used for **detection of early renal dysfunction** in patients with type 1 or type 2 diabetes.
- Cystatin C has also been shown to **detect cardiovascular disease in patients with diabetes** and it may also be linked with incident type 2 diabetes in obese patients.

GUIDELINES ON CYSTATIN C

- **2012 KDIGO Guideline for Evaluation and Management of CKD** suggests measuring cystatin C in patients with CKD defined solely by eGFR of 45–60 mL/min/1.73 m2 but without other manifestations of CKD, such as albumin-creatinine ratio >30 mg/g.
- **2014 NICE (UK) Guidelines [CG182]** recommends that in people with stage 3a CKD who don't have proteinuria, that serum cystatin C is measured and laboratories report cystatin-based eGFR. This is intended to reduce the misdiagnosis of stage 3a CKD by 25%.

NP RANDOX CYSTATIN C

- **Latex Enhanced Immunoturbidimetric method** delivering high performance
- **Applications available for a wide range of biochemistry analysers** detailing instrument- specific settings for the convenient use of Randox Cystatin C on a variety of systems
- **Liquid ready-to-use reagents** for convenience and ease of use
- **Extensive measuring range of 0.4-10 mg/l**, capable of detecting extremely high levels of Cystatin C
- **Cystatin C control and cystatin C calibrator available** for a complete testing package

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Cystatin C ♦	R1 2 x 17.6ml, R2 2 x 6.1ml	CYS4004

REFERENCES
1. Bashier, A.M., Fadlallah, A. A. S., Alhashemi, N., Thadani, P. M., Abdelgadir, E., and Rashid, F., Cystatin C and its role in patients with type 1 and type 2 diabetes mellitus. Advances in Endocrinology, vol. 2015, Article ID 254042, 8 pages, 2015. doi:10.1155/2015/254042.

ENZYMATIC CREATININE

BIOLOGICAL SIGNIFICANCE

- The enzymatic method for creatinine measurement displays **several advantages** over the traditional alkaline picrate (Jaffe) method:
  - does not suffer greatly from interferences (there is a particular problem with bilirubin interferences with Jaffe method)
  - does not overestimate serum creatinine
  - more suitable for neonatal samples
  - more precise and accurate at low creatinine concentrations, leading to more reliable eGFR estimations
- Obtaining accurate serum creatinine measurements using the enzymatic method is essential, since systematic errors from the Jaffe method **cause unreliable renal function estimates** - leading to incorrect drug dose adjustments, misclassifications in CKD staging and incomparability of patient data.
- Although the creatinine determination in clinical practice is more than 100 years old, there is still much **debate regarding its accuracy** due to the variability of Jaffe methodologies.

CLINICAL SIGNIFICANCE

Use of **enzymatic creatinine** as a substitute for Jaffe creatinine offers numerous advantages:

- More accurate assessment of eGFR
- No known interferences from bilirubin, ascorbic acid, serum/plasma indices or a wide range of drugs
- Highly specific
- No interferences from endogenous creatinine as no sample blank is required
- Eliminates the need for urea determination

RANDOX ENZYMATIC CREATININE

- UF **UV enzymatic method** delivering high performance
- **Applications available for a wide range of biochemistry analysers** detailing instrument-specific settings for the convenient use of Randox Creatinine on a variety of systems
- **Excellent stability** - working reagent stable for 30 days
- **Highly sensitive** - 18umol/l
- **Standard included in kit** and is traceable to creatinine reference materials NIST 909b and NIST 967
- **Complementary controls and calibrators available** for a complete testing package

ORDERING INFORMATION

	KIT SIZE	CATALOGUE NUMBER
Creatinine (Enzymatic)	R1 4 x 50ml, R2 4 x 10ml (S)	CR2336
Creatinine (Enzymatic)	R1 4 x 100ml, R2 4 x 20ml (S)	CR2337
Creatinine (Enzymatic)	R1 4 x 50ml, R2 4 x 19.5ml	CR4037
Creatinine (Enzymatic)	R1 4 x 65ml, R2 4 x 28ml	CR8122
Creatinine (Enzymatic)	R1 4 x 20ml, R2 4 x 9.5ml	CR8317

JAFFE CREATININE

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Creatinine (Jaffe)	1 x 200ml (S)	CR510
Creatinine (Jaffe)	6 x 500ml (S)	CR524
Creatinine (Jaffe)	480T	CR2804
Creatinine (Jaffe)	R1 6 x 51ml, R2 3 x 28ml	CR3814
Creatinine (Jaffe)	R1 7 x 50ml, R2 2 x 40ml	CR7948
Creatinine (Jaffe)	R1 6 x 68ml, R2 6 x 20ml	CR8022
Creatinine (Jaffe)	R1 4 x 20ml, R2 4 x 7ml	CR8316

D-3-HYDROXYBUTYRATE (RANBUT)

BIOLOGICAL SIGNIFICANCE

- Metabolism of fatty acids in the liver results in the production of ketone bodies, consisting of acetone (2%), acetoacetate (20%) and **D-3-Hydroxybutyrate (78%)**.
- The nitroprusside method, used to test ketone levels in semi-quantitative dipstick tests, **only detects acetone and acetoacetate** not D-3-Hydroxybutyrate.
- As D-3-Hydroxybutyrate is the most abundant ketone produced during ketosis, the measurement of this analyte is **essential**.
- D-3-Hydroxybutyrate therefore provides a **superior methodology** compared to other commercially available ketone detection tests.
- The traditionally-used dipstick ketone test commonly suffers from **accuracy, reliability and specificity issues**. The Randox D-3-Hydroxybutyrate test can be applied on a wide variety of biochemistry analysers, offering a much more accurate and reliable method for ketone testing.

CLINICAL SIGNIFICANCE

- **Diabetic ketoacidosis** is a serious complication of diabetes, occurring when blood sugar levels are consistently high and insulin levels are severely low.
- Due to the lack of glucose entering the cells the body begins to **use fat stores** as an alternative source of energy.
- Levels of ketone bodies in the blood are elevated (ketosis) when **synthesis exceeds breakdown**. Very high levels of ketosis can lead to diabetic ketoacidosis.
- Symptoms of ketoacidosis include **nausea, vomiting and abdominal pain**. The condition can even lead to **coma or death** if the individual is not treated immediately.
- As D-3-Hydroxybutyrate is the most abundant ketone produced during ketosis the measurement **of this analyte is essential**.

NP RANDOX D-3-HYDROXYBUTYRATE (RANBUT)

- **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. As D-3-Hydroxybutyrate is the most abundant ketone produced during ketosis the measurement of this analyte is more specific. The Randox D-3-Hydroxybutyrate assay facilitates this analysis, thereby giving more accurate and reliable results.
- **Applications available for an extensive range of biochemistry analysers** detailing instrument specific settings for the convenient use of Randox D-3-Hydroxybutyrate on a variety of systems.
- **Sample type -** Serum, heparinized plasma or EDTA plasma.
- **Extensive measuring range** 0.07-2.9 mmol/l, comfortably detecting abnormal levels of D-3- Hydroxybutyrate in a sample.
- **Lyophilised reagents** for maximum stability.
- **Complementary controls and calibrators available** for a complete testing package

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
D-3-Hydroxybutyrate (Ranbut)	10 x 10ml (S)	RB1007
D-3-Hydroxybutyrate (Ranbut)	10 x 50ml (S)	RB1008

MICROALBUMIN

CLINICAL SIGNIFICANCE

- Microalbumin testing can identify individuals with diabetic nephropathy approximately **5-10 years earlier** than proteinuria tests.

RANDOX MICROALBUMIN

- **Calibrator supplied with kit** simplifying the ordering process
- **Liquid ready-to-use reagents** offering optimum convenience and ease of use
- **Extensive measuring range** 5.11-234 mg/l, ensuring abnormal microalbumin levels can be detected
- **Limited interference** from Bilirubin, Haemoglobin, Intralipid® and Triglycerides for more accurate results
- **Microalbumin control and calibrator available** for a complete testing package

R

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Microalbumin	R1 3 x 100ml, R2 5 x 7ml (S)	MA2423
Microalbumin	R1 1 x 60ml, R2 1 x 7ml (S)	MA2426
Microalbumin	200T	MA2864
Microalbumin	R1 6 x 20ml, R2 3 x 8ml	MA3828
Microalbumin	R1 4 x 20ml, R2 4 x 4.3ml	MA8056
Microalbumin	R1 1 x 20ml, R2 1 x 4.6ml	MA8325

ALBUMIN

CLINICAL SIGNIFICANCE

- Testing albumin is necessary as levels decrease in diabetes and may also affect HbA1c levels

RANDOX ALBUMIN

- **Liquid ready-to-use reagents** offering optimum convenience and ease of use
- **Limited interference** from Bilirubin, Haemoglobin, Intralipid® and Triglycerides for more accurate results
- **Extensive measuring range** 3.2-50.6 g/l, ensuring abnormal albumin levels are comfortably detected
- **Applications available for an extensive range of biochemistry analysers** detailing instrument specific settings for the convenient use of Randox Albumin assays on a variety of systems
- **Complementary controls and calibrators available** for a complete testing package

R

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Albumin	6 x 100ml (S)	AB362
Albumin	9 x 51ml	AB3800
Albumin	480T	AB2806
Albumin	4 x 68ml	AB8000
Albumin	4 x 20ml	AB8301
Prealbumin (Transthyretin)	R1 6 x 20ml R2 3 x 11ml	PA3843

NON-ESTERIFIED FATTY ACIDS (NEFA)

BIOLOGICAL SIGNIFICANCE

- NEFAs 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.
- Elevated NEFA concentrations in obesity are thought to arise from an increased **adipose tissue mass**, which in turn leads to **insulin resistance** in insulin target tissues.

CLINICAL SIGNIFICANCE

- NEFA has been shown to **increase in conditions** such as insulin resistance, type 2 diabetes and obesity, and is therefore linked to an **increased risk** of developing diabetes
- It is also highly useful in the **monitoring of** metabolic syndrome and diabetes

NP RANDOX NEFA

- **Speciality reagent from Randox** giving laboratories the opportunity to take their diabetes related testing beyond the routine and collate more extensive patient results
- **Extensive measuring range** 0.04-2 mmol/l allowing comfortable detection of NEFA levels
- **Applications available for an extensive range of biochemistry analysers** detailing instrument specific settings for the convenient use of Randox NEFA on a variety of systems
- **Complementary controls and calibrators available** for a complete testing package

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Non-Esterified Fatty Acids (NEFA)	R1 3 x 10ml, R2 3 x 20ml (S)	FA115

$ß_2$MICROGLOBULIN ($ß_2$M)

BIOLOGICAL SIGNIFICANCE

- **$ß_2$M** is a protein that is found on the surface of cells, and it functions as part of the human immune system.
- It is routinely shed by cells into the blood and is present in most body fluids, with the **highest levels found in blood** and very low levels found in urine.
- If the glomeruli in the kidneys are damaged, then they are unable to filter out $ß_2$M, so the **level in the blood rises**.

CLINICAL SIGNIFICANCE

- When kidney damage has occurred, $ß_2$M can be used to **distinguish between the two most commonly affected sites**, glomeruli and renal tubules.
- It might also be used to **monitor end-stage renal disease**, provide information on **prognosis** and to **detect kidney transplant rejection**.
- $ß_2$M is also used in detecting **heavy metal poisoning** (heavy metals can be toxic to kidney tubules), such as in occupational cadmium or mercury exposure.

RANDOX $ß_2$MICROGLOBULIN

- **Liquid ready-to-use reagents** offering optimum convenience and ease of use
- **Limited interference** from Bilirubin, Haemoglobin, Intralipid® and Triglycerides for more accurate results
- **Extensive measuring range** 0.56-20.9 mg/l, allowing comfortable detection of $ß_2$M levels
- **Complementary controls and calibrators available** for a complete testing package

ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
$ß_2$Microglobulin ♦	R1 2 x 11ml, R2 2 x 4.3ml	BM3887
$ß_2$Microglobulin ♦	R1 2 x 11.6ml, R2 2 x 4.9ml	BM8016

ADIPONECTIN

BIOLOGICAL SIGNIFICANCE

- Adiponectin is solely secreted by adipocytes and is a protein hormone with **anti-inflammatory** and **insulin-sensitising** properties
- It plays an important role in a number of **metabolic processes** such as glucose regulation and fatty acid oxidation
- Levels of adiponectin (its abundance) have been linked with several pathologies including **metabolic syndrome, cancer** and **cardiovascular disease**

CLINICAL SIGNIFICANCE

- Adiponectin exhibits anti-inflammatory, anti-atherogenic and anti-diabetic properties. Various functions of adiponectin may possibly serve to **prevent and treat obesity-related diseases and CVD.**[1]
- Adiponectin, the most abundant protein secreted by adipose tissue, exhibits **insulin-sensitising, anti-inflammatory, anti-atherogenic, pro-apoptotic and anti-proliferative properties.**
- Circulating adiponectin levels, which are determined predominantly by genetic factors, diet, physical activity, and abdominal adiposity, are **decreased in patients with diabetes, CVD, and several obesity-associated cancers.**
- Adiponectin levels are inversely associated with the risk of developing diabetes, CVD and several malignancies later in life.

METABOLIC, INSULIN AND DIABETIC CONCERNS

- Adiponectin is a powerful predictor of diabetes in subjects at high risk for diabetes, even after adjustment for weight. An **increase in adiponectin is inversely associated with progression to diabetes.**[2]
- Decreased serum adiponectin level is an **independent risk factor** for progression to type 2 diabetes.[3]
- Pregnant women with lower adiponectin levels at first trimester have higher levels of insulin resistance and are **more likely to develop gestational diabetes mellitus (GDM)** independently of adiposity or glycemic measurements.[4]
- Among overweight or obese women, having an adiponectin level below the normal (accepted) level has been linked to a **6.8-fold increased risk** of developing gestational diabetes. In women of normal weight having an adiponectin level below the normal (accepted) level is linked to a **3.5-fold increased risk** of developing gestational diabetes.[5]
- Subjects with high abdominal visceral fat (AVF) or low adiponectin had a three-fold increased risk of insulin resistance. The combination of low adiponectin with high abdominal visceral fat doubled this probability.[6]
- Abdominal visceral fat (AVF) has proven to be a better predictor of metabolic abnormalities (particularly insulin resistance) than BMI and waist circumference.[7]

NP RANDOX ADIPONECTIN

- **Automated biochemistry assay** with applications available for a wide range of analysers
- **Liquid ready-to-use reagents** for convenience and ease of use
- **Latex Enhanced Immunoturbidimetric method** delivering high performance
- **Extensive measuring range** for clinically important results
- **Adiponectin control and adiponectin calibrator available** offering a complete testing package

ADIPONECTIN

FIG.2. (Adapted from Matsuzawa, 2010) Correlation between visceral adiposity and plasma levels of adiponectin[8]

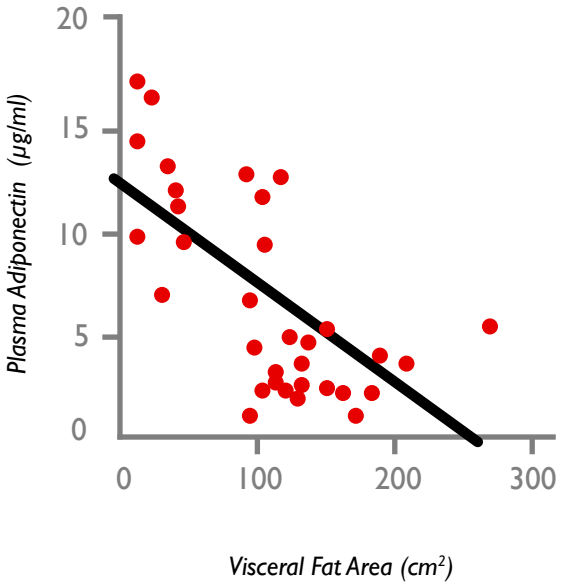
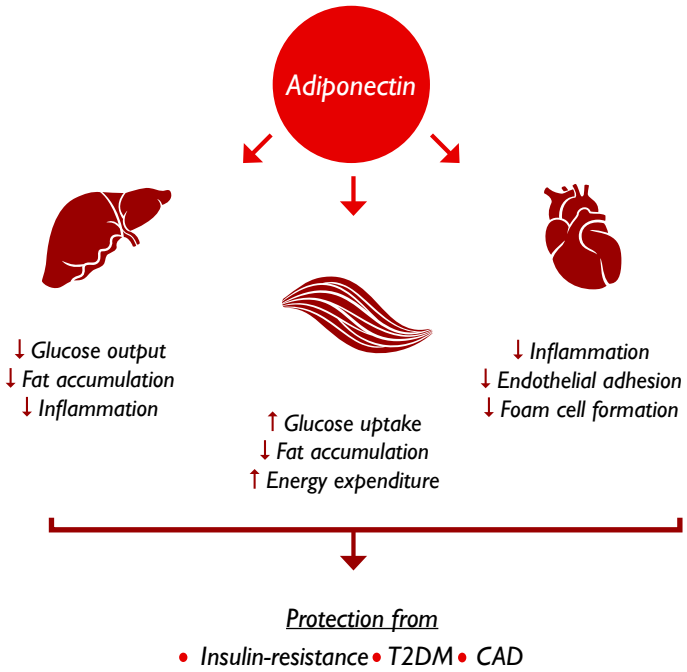


FIG. 3. (Menzaghi et al, 2007) Proposed salutary effects of adiponectin[9]



ORDERING INFORMATION

DESCRIPTION	KIT SIZE	CATALOGUE NUMBER
Adiponectin ♦	R1 2 x 15.8ml, R2 2 x 8.4ml	AO2999
Adiponectin ♦	R1 4 x 65ml, R2 4 x 33.5ml	AO2799

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