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Your Results of Interest

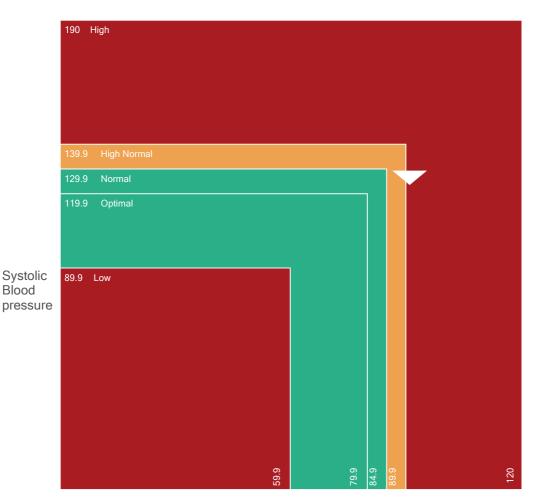
The results presented in this section are a summary of all the tests that are either positive or fall outside the reference ranges. What does this mean? A reference range is a term used to determine if your results are within what is considered to be the 'normal' range of the population. If your results are outside the range for a test, it does not automatically mean the result is abnormal. Depending on each person's individual medical history, current medications and ongoing conditions or diseases, the results must be interpreted in this context to fully understand what these results mean to you. Therefore, in this section those results that are either positive or fall outside the reference range are highlighted so that they can be reviewed by a GP / Consultant to understand the relevance to your health. These results will also appear again throughout the report alongside the other results for that profile.



Personal Health Measurements

Blood Pressure

Blood Pressure is a measurement of the force applied to the walls of the arteries as the heart pumps blood through the body. Systolic blood pressure refers to the pressure of blood as your heart contracts. Diastolic blood pressure refers to the pressure of blood as your heart rests between beats. High blood pressure is a significant risk factor for the development of heart disease, stroke, kidney disease and metabolic syndrome. Dehydration, bleeding, inflammation, infection, heart disease, pregnancy and various medications can cause low blood pressure. Physically fit individuals may have low blood pressure and in some individuals, blood pressure is naturally low.



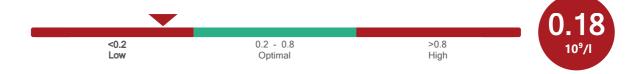


Diastolic Blood pressure



Monocyte Count

Monocyte Count refers to the number of monocytes per unit volume of blood. Monocytes are white blood cells that originate in the bone marrow and play an important role in destroying infectious organisms and tumour cells. A high monocyte count may occur in response to viral or parasitic infection, inflammatory bowel disease, tuberculosis, and in rare conditions such as monocytic leukaemia, lymphoma and multiple myeloma. A low monocyte count may be associated with bone marrow injury or failure, some forms of leukaemia and corticosteroid therapy.





Heart Health

LDL Cholesterol

LDL Cholesterol describes cholesterol that is bound to low-density lipoprotein (LDL). Lipoproteins are responsible for transporting cholesterol in the blood. LDL cholesterol deposits excess cholesterol in the walls of blood vessels, which can narrow blood vessels or lead to blockage of blood flow to organs such as the heart and brain (a process known as atherosclerosis). Increased LDL cholesterol levels are associated with increased risk of atherosclerosis, cardiovascular disease, stroke and liver disease.



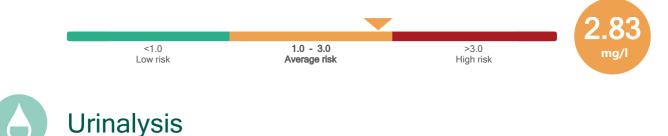
HDL Cholesterol

HDL Cholesterol describes cholesterol that is bound to high-density lipoprotein (HDL). Lipoproteins are responsible for transporting cholesterol in the blood. HDL cholesterol is 'protective' as it removes cholesterol from the peripheral tissues and transports it back to the liver for removal from the body. A low HDL cholesterol level is undesirable and is associated with increased risk of atherosclerosis (accumulation of cholesterol and fatty material within blood vessel walls) and cardiovascular disease. Obesity, metabolic syndrome (a set of risk factors for diabetes and cardiovascular disease occurring simultaneously), uncontrolled diabetes, smoking, malnutrition and lack of exercise are associated with low HDL cholesterol levels.



High Sensitivity C-Reactive Protein (hs-CRP)

High Sensitivity C-Reactive Protein (hs-CRP) is an extra sensitive test that can detect very low levels of CRP, an acute phase protein produced primarily by the liver. Acute phase proteins are proteins that increase or decrease in the blood in response to inflammation. Elevated hs-CRP indicates the presence of inflammation, which many research studies have indentified as a contributing factor to the development of atherosclerosis (accumulation of cholesterol in the blood vessels), a major feature of heart disease. Therefore, increased levels of hs-CRP are associated with greater risk of developing heart disease. However, before evaluating hs-CRP in this context, consideration of infection or inflammation is essential, as many conditions can raise hs-CRP, including infection, arthritis and inflammatory bowel disease. Obesity, pregnancy and oral contraceptives may also increase hs-CRP.



pH (Urine)

pH (Urine) of urine is measured to assess the acid-base balance, which is maintained by the kidneys. A high or alkaline pH (alkalaemia) may be due to urinary tract infection, kidney failure, tubular acidosis (accumulation of acid in the kidneys), vomiting or a diet high in citrus fruits, vegetables or dairy products. A low or acidic pH (acidaemia) can result from diabetes, respiratory acidosis, starvation, diarrhoea or a diet high in meat products or cranberries.





Liver Health

Alkaline Phosphatase (ALP)

Alkaline Phosphatase (ALP) is an enzyme found in many tissues, with particularly high amounts found in the liver, bile ducts and bone. Various conditions can increase the level of ALP in the blood. These conditions include liver disorders, such as cirrhosis (scarring of the liver), hepatitis (inflammation of the liver), liver cancer or bile duct obstruction. Rapid bone growth or bone disorders e.g. healing fractures, osteomalacia (softening of the bones), Paget's disease of bone (a disorder featuring abnormal bone growth), rheumatoid arthritis, certain bone tumours or hyperparathyroidism (an overactive parathyroid gland) can increase ALP levels. Increased ALP levels can also be associated with heart failure, heart attack or mononucleosis (viral infection). Decreased levels of ALP can be associated with poor nutrition, pernicious anaemia (insufficient red blood cell production due to vitamin B12 deficiency), vitamin C, zinc or protein deficiency, and hypophosphatasia (a rare genetic disorder of bone metabolism).



Gamma-Glutamyltransferase (GGT)

Gamma-Glutamyltransferase is an enzyme found mainly in the liver. Increased levels of GGT in the blood may indicate bile duct injury, hepatitis (inflammation of the liver), cirrhosis (scarring of the liver), liver necrosis (death of liver tissue), liver tumours or the use of drugs that are toxic to the liver. A high GGT level is frequently associated with increased alcohol consumption, as this liver enzyme is involved in the breakdown and removal of alcohol from the body. Raised GGT levels can be associated with the use of certain medications and a variety of other clinical conditions including myocardial infarction (heart attack), pancreatic disease and chronic obstructive pulmonary disease (a lung disorder).

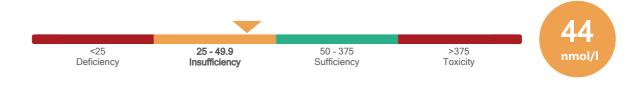




Nutritional Health

Vitamin D

Vitamin D regulates calcium and phosphate levels in the blood and is important for good health, growth and strong bones. Low vitamin D levels are commonly due to inadequate sunlight exposure or dietary intake but may occur with malabsorption disorders (conditions that affect the ability of the intestine to absorb nutrients, e.g. Crohn's disease), liver disease or kidney disorders. Low vitamin D levels can increase the risk of bone disorders such as osteoporosis (weakening of the bones) and osteomalacia (softening of the bones), and may increase the risk of certain cancers, immune diseases and cardiovascular disease. Increased vitamin D levels may be associated with excessive supplementation, hyperparathyroidism (increased production of parathyroid hormone) or sarcoidosis (a rare disease in which areas of the body are inflamed). High levels of vitamin D can cause calcium levels in the blood to rise, which can be damaging to the body.



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Bone Health

Alkaline Phosphatase (ALP)

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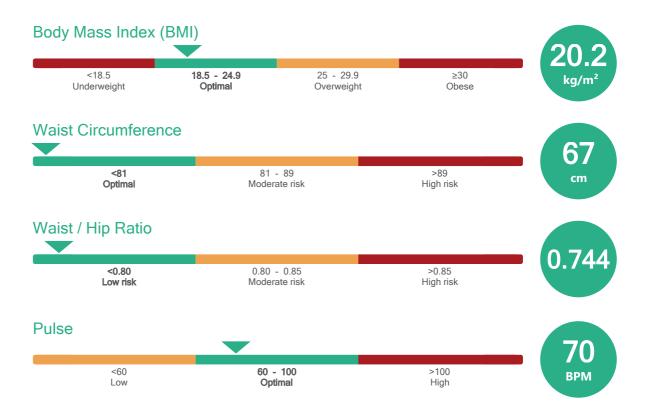
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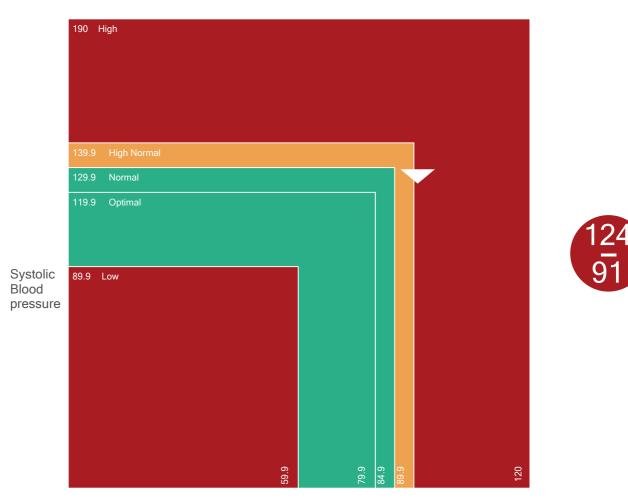


Measurements include pulse, blood pressure, waist circumference and calculation of body mass index (BMI). Various lifestyle and hereditary factors can influence these parameters, which are useful in the overall assessment of an individual's risk of developing conditions such as cardiovascular disease or diabetes. The measurement of oxygen saturation by pulse oximetry is also included. A low blood oxygen level, or hypoxaemia, may be associated with airway obstruction, which occurs in conditions such as asthma, emphysema and chronic obstructive pulmonary disease.



Blood Pressure

Blood Pressure is a measurement of the force applied to the walls of the arteries as the heart pumps blood through the body. Systolic blood pressure refers to the pressure of blood as your heart contracts. Diastolic blood pressure refers to the pressure of blood as your heart rests between beats. High blood pressure is a significant risk factor for the development of heart disease, stroke, kidney disease and metabolic syndrome. Dehydration, bleeding, inflammation, infection, heart disease, pregnancy and various medications can cause low blood pressure. Physically fit individuals may have low blood pressure and in some individuals, blood pressure is naturally low.

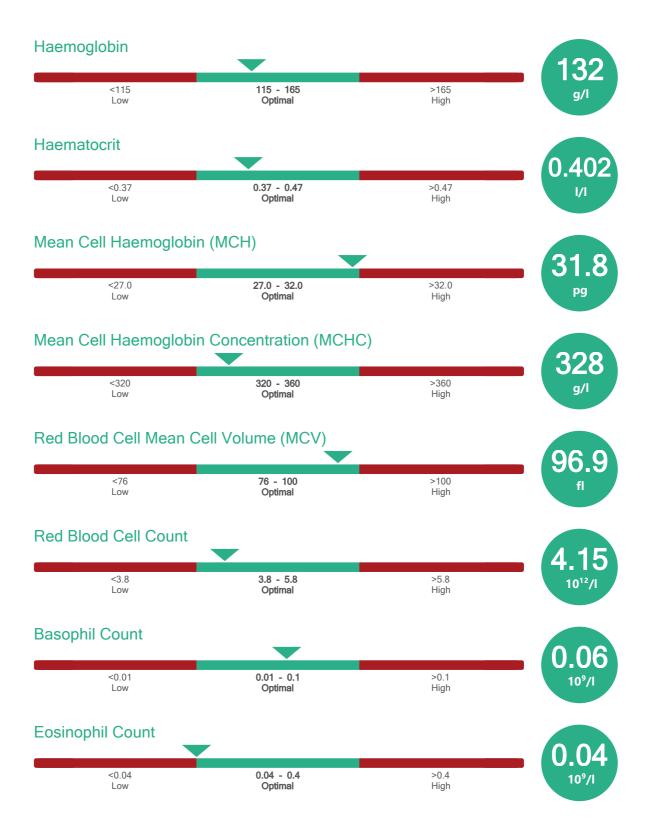


Diastolic Blood pressure

Height	Weight	Hip circumference
1.62 m	53 kg	90 cm



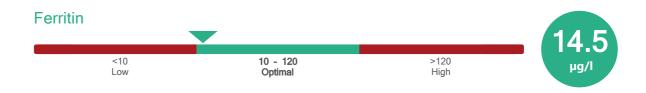
This panel provides information about the type and number of cells in the blood, including red blood cells, white blood cells and platelets. Red blood cells contain haemoglobin, a protein that carries oxygen from the lungs to all the tissues of the body and carbon dioxide back to the lungs. White blood cells form part of the immune system and help to defend the body against infection from foreign substances such as bacteria, fungi and viruses. The major types of white blood cells are neutrophils, lymphocytes, monocytes, eosinophils and basophils, with each having their own role in protecting the body from infection. Platelets are important for blood clotting. Their sticky surface enables them, along with other substances, to help wounds heal by forming clots to stop bleeding. The Full Blood Count is useful for evaluating general health status and as a screening tool for a variety of conditions, such as anaemia, infection, inflammation and other blood disorders.







Iron is essential for red blood cell formation. Most of the body's iron, approximately 70%, is present in red blood cells, where its primary role is to carry oxygen from the lungs to all the tissues of the body. Additionally, iron facilitates energy production and release from cells and participates in the functioning of the immune and central nervous systems. Iron Status is useful for evaluating conditions such as iron-deficiency, which can cause anaemia, and iron overload, which can cause organ damage, particularly to the liver.



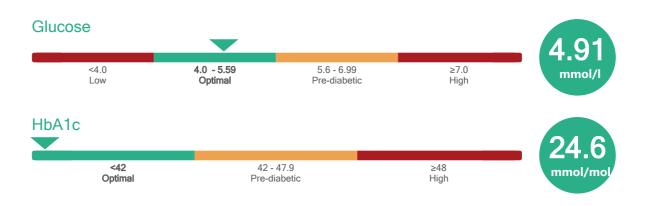


A major contributing factor to heart disease is the gradual accumulation of fat and cholesterol within blood vessel walls, a process known as atherosclerosis. Cholesterol is a fatty substance that is vital for the normal functioning of the body. However, too much cholesterol is damaging and the risk of developing heart disease is greater in individuals with high cholesterol levels. Heart Health helps assess an individual's risk of developing cardiovascular diseases such as heart disease and stroke.



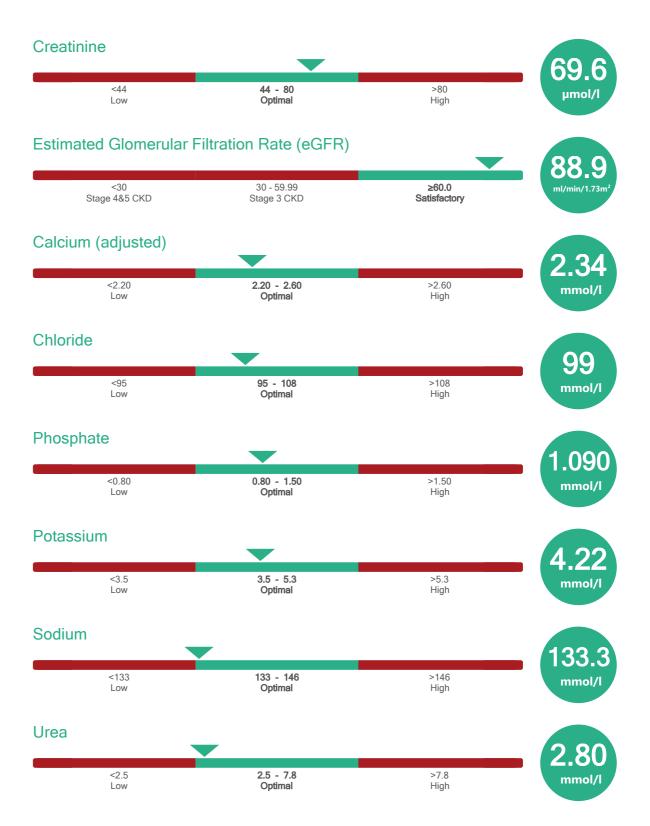


Diabetes mellitus is a chronic condition that is characterised by a high blood glucose level. Normally, insulin (a hormone produced by the pancreas) regulates blood glucose levels. Type 1 diabetes is a condition in which the insulin producing cells of the pancreas are destroyed resulting in very little or no insulin production. Type 2 diabetes is a condition in which the pancreas continues to produce insulin but blood sugar levels remain high due to an insufficient amount of insulin or insulin resistance. Although glucose provides an essential fuel for the body, long-term high levels of glucose are destructive, causing damage to blood vessels, nerves and organs. This damage can increase the risk of developing high blood pressure, heart disease, kidney disease and loss of vision. The Diabetes Health panel includes measurement of glucose and HbA1c levels in the blood, which is useful for the diagnosis and monitoring of diabetes. Higher than normal levels can be associated with a greater risk of developing diabetes in the future ('high risk' or 'prediabetes').





The kidneys are responsible for the production of urine and regulation of water and salt levels in the blood. The kidneys filter blood to remove waste products, water and salts. The fluid containing these waste products travels through kidney tubules where re-absorption of water and salts takes place. This absorption process is crucial to the maintenance of fluid balance in the body, which is also important for blood pressure regulation. Many conditions can impair the filtering ability of the kidney or lead to destruction of kidney tissue, including urinary tract obstruction, glomerulonephritis and acute kidney injury. Kidney Health helps evaluate the filtering ability of the kidneys and can indicate how well the kidneys are functioning.





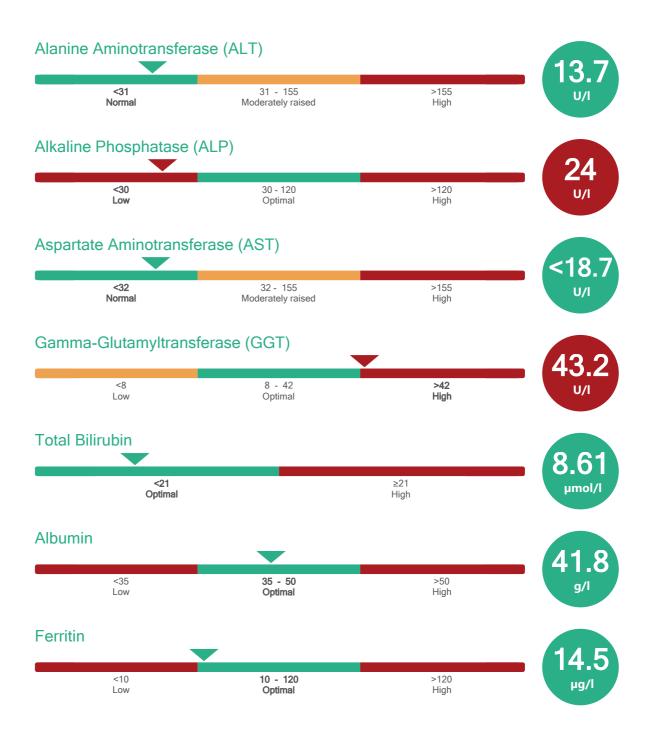
Urinalysis is part of routine diagnostic and screening evaluations. It can reveal a significant amount of preliminary information about the kidneys and other metabolic processes. Urinalysis tests for substances that are normally not present or are present at low concentrations in the urine. In addition, pH measurement helps determine the acidity of urine and is indicative of acid-base balance in the body.



White Blood Cells	s (Urine)			Negative
Negative	0 - 25	26 - 100	101 - 500	Leuk/µl
Optimal	+1	+2	+3	

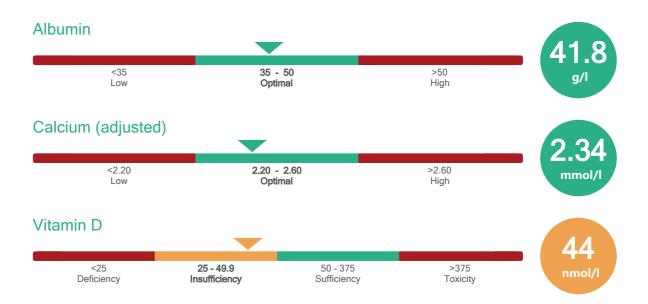
L Liver Health

The liver is a vital organ that plays a major role in the regulation of metabolism. The liver performs many complex functions, which include processing of carbohydrates, proteins and fats, breakdown of harmful or toxic substances, decomposition of red blood cells, removal of waste products from the blood and the production and secretion of bile. Bile is a fluid, which aids in the digestion of fats. Once secreted from the liver, bile travels through a series of ducts to the small intestine or to the gallbladder for storage. Liver disease encompasses many conditions that can cause damage to the liver, such as cirrhosis (irreversible scarring of liver tissue), hepatitis (inflammation of the liver), fatty liver disease, gallbladder disease and bile duct obstruction. The Liver Health panel consists of tests that evaluate the function of the liver.



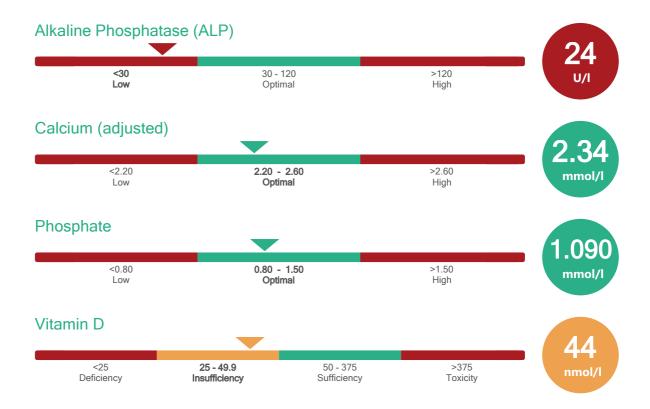


Nutrition is the supply of materials (in the form of food), which are necessary to allow the body to function normally. Vitamins and minerals support normal growth, and help organs and cells to function. Therefore, good nutrition is vital for health and wellbeing. A poor diet or malabsorption disorders (conditions caused by an impaired ability to digest and/or absorb nutrients from food) may lead to nutritional deficiency. The Nutritional Health panel evaluates the levels of various nutrients and can help identify whether an individual's nutritional status is adequate.





Bones provide structural support for the body and offer protection to delicate organs and tissues (e.g. the ribs protect the heart and lungs and the skull protects the brain). Bones are subject to a continuous remodelling process where old bone tissue is replaced with new tissue. For bones to remain strong and healthy, various factors are required, including calcium and vitamin D. Osteoporosis is a condition in which bones lose density and become weak. Risk factors for osteoporosis include oestrogen deficiency (post-menopause), vitamin D deficiency, calcium deficiency and an inactive lifestyle. Bone Health helps evaluate the levels of these important bone-strength factors, which can be useful for identifying individuals at risk of future bone-related health problems.

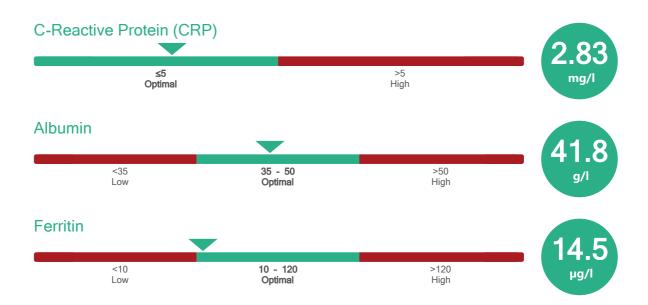


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Infection & Inflammation

Inflammation is the body's natural response to infection, irritation or injury and is characterised by pain, swelling, warmth and redness of the affected area. Inflammation is a protective mechanism that occurs in an attempt to remove the cause of the injury or irritation and to initiate healing and repair. The Infection & Inflammation panel can indicate the presence of infection or inflammation in the body.



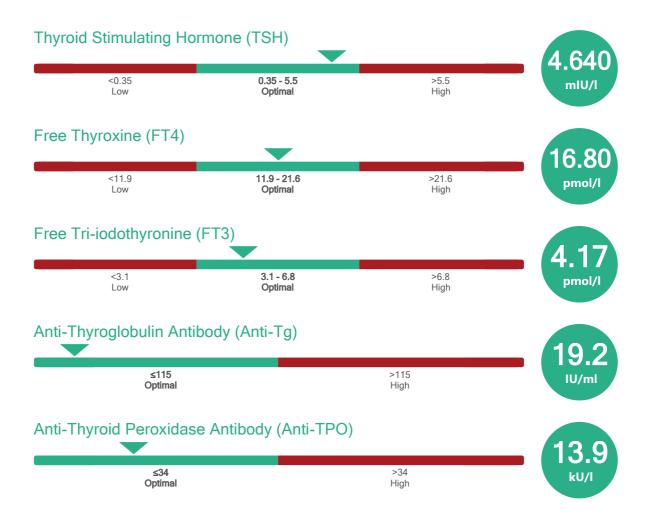
Tumour Associated Markers

Tumour associated markers are substances that circulate in the bloodstream and can indicate the presence of cancer in the body. Tumour markers are not diagnostic of cancer but can be helpful when staging cancer, monitoring response to therapy or detecting cancer recurrence. The Tumour Associated Markers profile measures the levels of a range of markers that evidence suggests are associated with various cancer types. However, no marker is diagnostic of a particular cancer and elevated tumour marker levels can occur in many benign (non-cancerous) conditions and in healthy individuals with no evidence of disease. Equally, a negative result does not exclude the possibility of cancer being present, as not every individual with cancer will produces these substances. Therefore, test results indicating the function of other areas of the body in conjunction with any symptoms or relevant medical history are important to consider when interpreting tumour associated marker results.

Cancer Antigen 125 (CA 125)		8
<35	≥35	U
Optimal	High	kU/I



The thyroid gland plays an important role in controlling the body's metabolism by producing hormones. The thyroid hormones help the body to use energy, stay warm and keep the heart, brain, muscle and other organs functioning properly. Thyroid Health consists of tests that can be used to help diagnose an 'underactive thyroid' (hypothyroidism) or an 'overactive thyroid' (hyperthyroidism), or to monitor the treatment of these conditions.



Results for your Doctor

This section contains all your test results. Your doctor may prefer to see your test results in this format. The results that are either positive or fall outside the reference range are highlighted in red.

Test	Result	Units	Reference Range	
Personal Health Measurements				
Height	1.62	m	N/A	
Weight	53	kg	N/A	
Body Mass Index (BMI)	20.2	kg/m²	18.5 - 24.9 Optimal	
Waist Circumference	67	cm	<81 Optimal	
Hip circumference	90	cm	N/A	
Waist / Hip Ratio	0.744		<0.80 Low risk	
Pulse	70	BPM	60 - 100 Optimal	
Systolic Blood pressure	124	mmHg	120 - 129.9 Normal	
Diastolic Blood pressure	91	mmHg	≤59.9 Low 60 - 79.9 Optimal 80 - 84.9 Normal 85 - 89.9 High Normal ≥90 High	
Full Blood Count				
Haemoglobin	132	g/l	115 - 165 Optimal	
Haematocrit	0.402	1/1	0.37 - 0.47 Optimal	
Mean Cell Haemoglobin (MCH)	31.8	pg	27.0 - 32.0 Optimal	
Mean Cell Haemoglobin Concentration (MCHC)	328	g/l	320 - 360 Optimal	
Red Blood Cell Mean Cell Volume (MCV)	96.9	fl	76 - 100 Optimal	
Red Blood Cell Count	4.15	10 ¹² /l	3.8 - 5.8 Optimal	
Basophil Count	0.06	10 ⁹ /l	0.01 - 0.1 Optimal	
Eosinophil Count	0.04	10 ⁹ /l	0.04 - 0.4 Optimal	
Lymphocyte Count	1.28	10 ⁹ /l	1.0 - 3.5 Optimal	

Test	Result	Units	Reference Range
Monocyte Count	0.18	10 ⁹ /l	<0.2 Low 0.2 - 0.8 Optimal >0.8 High
Neutrophil Count	3.08	10 ⁹ /l	2 - 7.5 Optimal
White Blood Cell Count	4.64	10 ⁹ /l	4.0 - 10.0 Optimal
Platelet Count	274	10 ⁹ /l	150 - 450 Optimal
Iron Status			
Ferritin	14.5	µg/l	10 - 120 Optimal
Heart Health			
Total Cholesterol	4.59	mmol/l	<5 Desirable
LDL Cholesterol	3.84	mmol/l	<3 Desirable ≥3 High
HDL Cholesterol	1.06	mmol/l	<1.55 Low ≥1.55 Desirable
Total Cholesterol / HDL Cholesterol Ratio	4.33		<5 Desirable
Triglycerides	0.89	mmol/l	<2.3 Desirable
High Sensitivity C-Reactive Protein (hs-CRP)	2.83	mg/l	<1.0 Low risk 1.0 - 3.0 Average risk >3.0 High risk
Diabetes Health	L.	1	
Glucose	4.91	mmol/l	4.0 - 5.59 Optimal
HbA1c	24.6	mmol/mol	<42 Optimal
Kidney Health			
Creatinine	69.6	µmol/l	44 - 80 Optimal
Estimated Glomerular Filtration Rate (eGFR)	88.9	ml/min/1. 73m²	≥60.0 Satisfactory
Calcium (adjusted)	2.34	mmol/l	2.20 - 2.60 Optimal
Chloride	99	mmol/l	95 - 108 Optimal
Phosphate	1.090	mmol/l	0.80 - 1.50 Optimal
Potassium	4.22	mmol/l	3.5 - 5.3 Optimal

Test	Result	Units	Reference Range			
Sodium	133.3	mmol/l	133 - 146 Optimal			
Urea	2.80	mmol/l	2.5 - 7.8 Optimal			
Urinalysis	Urinalysis					
Bilirubin (Urine)	Negative	mg/dl	Negative Optimal			
Glucose (Urine)	Normal	mg/dl	Normal Optimal			
Ketones (Urine)	Negative	mg/dl	Negative Optimal			
Nitrite (Urine)	Negative	mg/dl	Negative Optimal			
pH (Urine)	8.0	рН	<5 Low 5 - 7.5 Optimal >7.5 High			
Protein (Urine)	Negative	mg/dl	Negative Optimal			
Red Blood Cells (Urine)	Negative	RBC/µl	Negative Optimal			
Urobilinogen (Urine)	Normal	mg/dl	Normal Optimal			
White Blood Cells (Urine)	Negative	Leuk/µl	Negative Optimal			
Liver Health						
Alanine Aminotransferase (ALT)	13.7	U/I	<31 Normal			
Alkaline Phosphatase (ALP)	24	U/I	<30 Low 30 - 120 Optimal >120 High			
Aspartate Aminotransferase (AST)	<18.7	U/I	<32 Normal			
Gamma-Glutamyltransferase (GGT)	43.2	U/I	<8 Low 8 - 42 Optimal >42 High			
Total Bilirubin	8.61	µmol/l	<21 Optimal			
Total Bilirubin Albumin	8.61 41.8	µmol/l g/l	<21 Optimal 35 - 50 Optimal			
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Albumin	41.8	g/l	35 - 50 Optimal			
Albumin Ferritin	41.8	g/l	35 - 50 Optimal			

Test	Result	Units	Reference Range	
Vitamin D	44	nmol/l	<25 Deficiency 25 - 49.9 Insufficiency 50 - 375 Sufficiency >375 Toxicity	
Bone Health				
Alkaline Phosphatase (ALP)	24	U/I	<30 Low 30 - 120 Optimal >120 High	
Calcium (adjusted)	2.34	mmol/l	2.20 - 2.60 Optimal	
Phosphate	1.090	mmol/l	0.80 - 1.50 Optimal	
Vitamin D	44	nmol/l	<25 Deficiency 25 - 49.9 Insufficiency 50 - 375 Sufficiency >375 Toxicity	
Infection & Inflammation				
C-Reactive Protein (CRP)	2.83	mg/l	≤5 Optimal	
Albumin	41.8	g/l	35 - 50 Optimal	
Ferritin	14.5	µg/l	10 - 120 Optimal	
Tumour Associated Markers				
Cancer Antigen 125 (CA 125)	8	kU/l	<35 Optimal	
Thyroid Health				
Thyroid Stimulating Hormone (TSH)	4.640	mIU/I	0.35 - 5.5 Optimal	
Free Thyroxine (FT4)	16.80	pmol/l	11.9 - 21.6 Optimal	
Free Tri-iodothyronine (FT3)	4.17	pmol/l	3.1 - 6.8 Optimal	
Anti-Thyroglobulin Antibody (Anti- Tg)	19.2	IU/ml	≤115 Optimal	
Anti-Thyroid Peroxidase Antibody (Anti-TPO)	13.9	kU/l	≤34 Optimal	