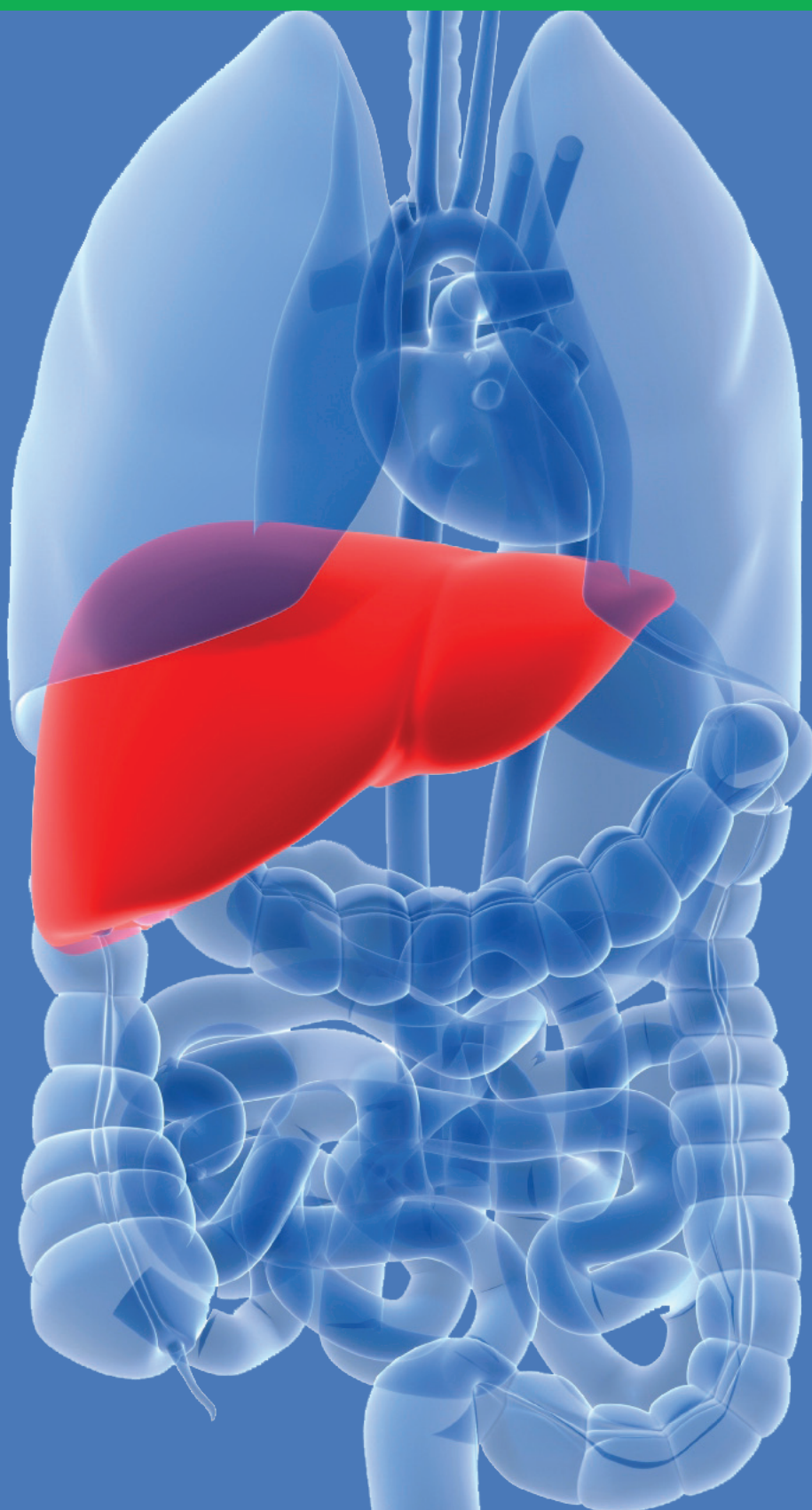


Total Bile Acids



TOTAL BILE ACIDS

New 5th Generation Assay offers

- Improved Sensitivity
- Reduced Interferences
- Ready-to-use Liquid Reagents

What are Bile Acids?

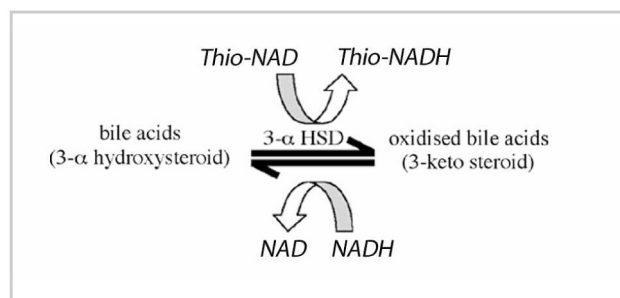
Bile acids are synthesised in the liver as a breakdown product of cholesterol and secreted into the gall bladder. They are released into the small intestine where they solubilise dietary lipids such as cholesterol, aiding their absorption. Bile acids are reabsorbed from the portal blood by hepatocyte extraction and re-excreted into bile, passing through the enterohepatic circulation several times before final excretion. The measurement of bile acids in serum is a sensitive indicator of liver function.

Fasting serum bile acids can be used in the diagnosis and prognosis of liver disease. Levels rise in many liver diseases, for example hepatitis and liver sclerosis. Abnormal levels in fasting patients or immediately after a meal can be used to detect liver disease and damage, impaired liver function, intestinal dysfunction and perhaps a gall bladder blockage. Bile acid measurement may detect some forms of liver disease earlier than standard liver tests because bile acids levels correspond to liver function, rather than liver damage. In veterinary medicine, bile acid measurement is considered to be a superior indicator of liver disease.

How are Bile Acids measured?

The 5th Generation Randox Total Bile Acids assay uses liquid stable two shot reagents in an enzymatic colorimetric assay for the quantitative in vitro determination of bile acids in serum or EDTA lithium heparin plasma. The assay incorporates a more complex enzyme cycling mechanism than previous generations to amplify the signal, improving sensitivity and precision and reducing interference in haemolytic and lipaemic samples.

Two reactions are combined in this kinetic enzyme cycling method. In the first reaction bile acids are oxidised by 3- α hydroxysteroid dehydrogenase with the subsequent reduction of Thio-NAD to Thio-NADH. In the second reaction the oxidised bile acids are reduced by the same enzyme with the subsequent oxidation of NADH to NAD. The rate of formation of Thio-NADH is determined by measuring the specific absorbance change at 405nm. This enzyme cycling means multiple Thio-NAD molecules are generated from each bile acid molecule giving rise to a much larger absorbance change, increasing the sensitivity of the assay.



Features

- **Convenient** - Two-shot ready-to-use LIQUID reagents.
- **Linearity** - 150 $\mu\text{mol/l}$ on the **IXdaytona™**.
- **Sensitivity** - 1 $\mu\text{mol/l}$ (theoretical sensitivity).
- **Normal Range** - 0 – 10 $\mu\text{mol/l}$ in human serum (fasting).
- **Correlation with Standard Methods** - A correlation coefficient of 0.98 was obtained with another commercially available method using patient samples with a range of 1.0-95.6 $\mu\text{mol/l}$. $Y = 0.89x + 0.21$
- **Sample Type** - Suitable for use in serum and EDTA lithium heparin plasma samples.
- **Protocols** - Available for a range of analysers.
- **Improved Interferences** - The following analytes were tested up to the levels indicated and found not to interfere with the assay.

Haemoglobin	250 mg/dl
Triglycerides	1000 mg/dl
Intralipid	800 mg/dl
Free Bilirubin	85 mg/dl
Conjugated Bilirubin	85 mg/dl

- **Kits** - Randox's enzymatic colorimetric methods have been progressively developed over several years. The all liquid 5th generation total bile acids kit has improved precision, sensitivity, interferences and stability compared to previous generations.

Product Description	Size	Cat. No.
5th Generation Bile Acids	R1 2x18ml R2 2x8ml	BI 3863

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