Bile Acids Serum Test Information

Bile acids (BAs) are a group of acidic steroids synthesized in the liver from cholesterol. The two primary bile acids in humans are cholic acid (CA) and chenodeoxycholic acid (CDCA), which are conjugated with either glycine of taurine to form conjugated BAs. Bile acids have a variety of biological functions. Bile acids are detergents and facilitate the absorption of fats and fat-soluble vitamins. They are critical to generating bile flow and regulate many biochemical pathways, including maintaining cholesterol homeostasis. Bile acids undergo an enterohepatic circulation and therefore, the concentration of serum bile acids is a good indicator of liver function. The serum bile acid concentrations are usually low in healthy subjects but can be increased under pathophysiological conditions, such as hepatocellular dysfunction, cholestasis, intestine bacterial overgrowth, and with bile acid administration.

Our lab offers a high performance liquid chromatography-mass spectrometry (HPLC-MS) assay utilizing stable-isotope labeled internal standards for quantification of serum bile acids. Bile acid profile analysis provides a comprehensive diagnostic test for liver function. For more information, call the lab at 513-636-4203.

Sample Type:
Serum (Red, No Gel **or** Gold top)

Volume:
1.5 mL
0.5 mL (minimum)

Specimen Preparation:
Spin/pour off, freeze.
Preferable for patients to be off Ursodeoxycholic acid (Urso or Actigal) for 5 days before sample collection.

Stability:
Frozen: Greater than 10 years

Methodology:
High performance liquid chromatography-mass spectrometry (HPLC-MS)

Reporting Units:
Quantitative: mcmol/L

Reference Interval:
Total: <= 8.5 mcmol/L

Shipping Conditions:
Frozen (dry ice), next day.

Testing Schedule:
Varies. **Turnaround time:** 10-14 days.

CPT Code:
83789

Note:
Please provide history/preliminary diagnosis to help with interpretation.

Contact Information:
Clinical Mass Spectrometry
Tel: 513-636-4203
Fax: 513-803-5014
Email: pathology@cchmc.org
Website: www.cincinnatichildrens.org/mass-spec

Shipping Address:
Clinical Mass Spectrometry Facility, MLC 7019
Department of Pathology and Laboratory Medicine
Cincinnati Children's Hospital Medical Center
240 Albert Sabin Way
Cincinnati, Ohio 45229 - 3039

References:
1. Russell, D. et al. The enzymes, regulation, and genetics of bile acid synthesis. Annu. Rev. Biochem. 2003 (72) 137-174.
2. Hagio M. et al. Improved analysis of bile acids in tissues and intestinal contents of rats using LC/ESI-MS. J. Lipid Res. 2009 (50) 173-180.
3. Griffiths W. et al. Bile acids: analysis in biological fluid and tissues. J. Lipid Res. 2010 (51) 23-41.