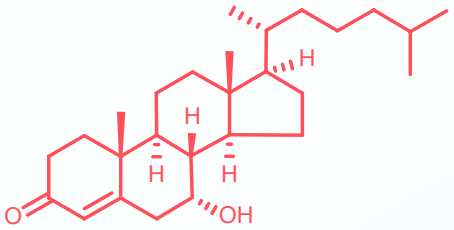
BILE ACID BIOSYNTHESIS

7-α-Hydroxy-4-cholesten-3-one Assay



7-α-Hydroxy-4-cholesten-3-one

7-α-Hydroxy-4-cholesten-3-one (C4) is an intermediate in the biosynthesis of bile acids from cholesterol. The precursor to C4 is 7α-hydroxycholesterol which is produced from cholesterol via the hepatic enzyme, 7α-hydroxylase. 7-α-hydroxylase catalyzes the rate-limiting step in bile acid synthesis and its activity is tightly regulated via the FXR receptor. Measurement of the stable metabolite C4, a product of the next oxidative enzymatic reaction after 7-α-hydroxylase, is reflective of hepatic de-novo bile acid synthesis and FXR receptor activation. Bile acid malabsorption is associated with a variety of gastrointestinal pathologies (e. irritable bowel syndrome, ileal disease) and is characterized by elevated serum C4 levels.

7-α-Hydroxy-4-cholesten-3-one Assay	LLOQ
	Plasma/Serum
7-α-Hydroxy-4-cholesten-3-one	240 pg/mL

The panel is for non-GxP testing and is not for diagnostic use

Analysis Method and Instrumentation

LC-MS/MS (Agilent 1290 UHPLC/Sciex QTrap 5500)

Sample Type and Required Amounts

Sample Type	Sample Requirement
Plasma/Serum	150 - 200 µL
Others on request	

Applications

- Drug Development for the treatment of fatty liver disease (e.g. FXR receptor agonists)
- Bile acid malabsorption studies
- Bile acid biosynthesis
- Bowel function testing
- Gut health and wellness
- Therapeutic intervention studies
- Basic microbiome research

Contact us to get started

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