

# BILE ACID CHALLENGE TEST

**SAMPLE REQUIRED:**

Serum or Plasma (0.5 mL)  
Whole Blood (1.5ml)

**BLOOD TUBE REQUIRED:**

Gel (gold top) or plain (red top) tubes. Lithium Heparin (Green top) or EDTA (purple top) may also be used.

**Test Use**

Bile acids are produced in the liver, secreted into the biliary system and subsequently into the duodenum where they aid in digestion of fats. They are then reabsorbed and removed from the portal circulation by the liver for re-use.

Measured blood bile acids will be influenced by any process that affects any part of this recycling system. This may include biliary obstruction, reduced hepatic mass, loss of function with acute inflammatory or toxic insults, or when portal blood is shunted away from the liver.

**Protocol**

- The animal should be fasted for 12 hours.
- Collect a fasting blood sample. Clearly label the tube with the patient's details and '0 hr'.
- Feed the dog or cat a small meal to stimulate gall bladder contraction. It is recommended that pets <5kg of body weight eat at least two teaspoons of food, those that weigh more eat at least two tablespoons. It is important to watch closely to ensure that all of the food is eaten. Avoid overfeeding as this may result in sample lipaemia which can interfere with the bile acid assay.
- Collect the post-prandial blood sample 2 hours after feeding. Clearly label the tube with the patients details and '2 hr'.
- Transport both samples to the laboratory within 12-24 hours of collection.

**Notes:**

- Sample lipaemia and haemolysis may interfere with the results of the bile acid assay.
- Bile acid testing is NOT necessary in an animal that is clinically icteric or has hyperbilirubinaemia that is not due to haemolytic disease, since this already indicates impaired liver and/or biliary function.
- Some Maltese terriers have increased bile acid concentrations in the absence of liver disease, therefore it may be impossible to determine the significance of increased bile acid concentrations in this breed.  
Additional non-invasive diagnostic options include ammonia challenge test and abdominal imaging.