ABSTRACT: The purpose of this study was to compare serum bile acids results obtained from two different methods: DCL’s Bile Acids-L,K® run on the Hitachi® 717 instrument (reference method) and the IDEXX SNAP® Bile Acids Test run on the IDEXX SNAP® Reader. Preprandial and postprandial serum samples from eight hundred sixty-one patients were run on both analyzers and the bile acids results were compared. The agreement between the reference method and the SNAP Bile Acids Test results was 95.2%.

RESULTS: Each patient was categorized as “low,” “high” or “inconclusive” according to the SNAP Bile Acids Test reference ranges, using both the preprandial and postprandial bile acids results. “Low” patients had bile acids concentrations <12 µmol/L for both preprandial and postprandial samples, consistent with normal bile acids levels. “High” patients had a postprandial bile acids concentration >25 µmol/L, consistent with impaired liver function. “Inconclusive” patients had a preprandial or postprandial bile acids concentration of 12–25 µmol/L, where bile acids were moderately elevated, but not to the extent that confirmed impaired liver function.

Figure 1. Method comparison results for the 734 canine patients run on the SNAP Bile Acids Test and the reference method.

The results for the canine patients are summarized in Figure 1. There were 452 canine patients categorized as “low” based on the bile acids results obtained by the reference method. Of these 452 patients, 435, or 96.2%, were also “low” based on the SNAP Bile Acids Test results. There were 167 canine patients categorized as “high” based on the reference method bile acids results, with 159, or 95.2%, also being “high” based on the SNAP Bile Acids Test results.
results. Of the 115 canine patients categorized as “inconclusive” based on the bile acids results obtained by the reference method, 101, or 87.8%, were also “inconclusive” based on the SNAP Bile Acids Test results.

The results for the feline patients are summarized in Figure 2. There was 100% agreement between the reference method results and the SNAP Bile Acids Test results for the 86 feline patients categorized as “low” and for the 25 feline patients categorized as “high.” Of the 16 feline patients categorized as “inconclusive” based on the bile acids results obtained by the reference method, 14, or 85.7%, were also “inconclusive” based on the SNAP Bile Acids Test results.

The overall agreement between the SNAP Bile Acids Test and the reference method for canine and feline patients combined was 95.2%, with 521 patients being “low,” 192 patients being “high,” and 131 patients being “inconclusive” based on the bile acids results from both methods.

DISCUSSION: There was strong agreement between the SNAP Bile Acids results (run on the IDEXX SNAP Reader) and the reference method results (DCL’s Bile Acids-L_K run on the Hitachi 717) for the 861 canine and feline patients evaluated. The results agreed very well, especially considering the methodology differences for the two tests, the reference method being an enzyme-based assay and the SNAP Bile Acids Test being a competitive immunoassay. The results obtained in the method comparison study indicate that the SNAP Bile Acids Test, used in combination with the patient’s clinical signs and symptoms, effectively allows the veterinarian to determine whether there is decreased liver function.

CONCLUSION: The SNAP Bile Acids Test provides accurate and reliable quantitative test results as compared to the Hitachi/DCL Bile Acid-L_K reference method. The use of the SNAP Bile Acids Test allows the practitioner to quickly assess liver function of canines and felines in-clinic, resulting in prompt follow-up diagnostics when needed.