



**CATACHEM**

## BILE ACIDS

### PRODUCT / SERVICE INFORMATION

#### Catachem introduces the VetSpec™ Bile Acids (liquid) In-Vitro Diagnostic Chemistry reagent test kit.

Catachem is pleased to announce the introduction of our new reagent system with calibrator and controls. Catachem Bile Acids procedure is based on the enzymatic procedure described by Mashige, *et al.* In this Bile Acids procedure, 3 $\alpha$ -hydroxy Bile Acids are converted to corresponding 3-keto hydroxy Bile Acids by the action of the enzyme 3 $\alpha$ -hydroxysteroid dehydrogenase (3 $\alpha$ -HSDH) with concomitant reduction of NAD<sup>+</sup> to NADH. The NADH thus produced is subsequently oxidized to NAD<sup>+</sup> in a diaphorase-catalyzed reaction where nitrotriazolium blue (NBT) is reduced to form a formazan dye, which has an absorption maximum at 540nm. The intensity of the color produced is directly proportional to the concentration of Bile Acids in the sample.

#### Working Reagent Preparation

The Bile Acids Enzyme Color Reagent and the Bile Acids Activator Reagent are packaged in ready-to-use form. No preparation is required. Label these reagents “Working Reagent R1” and “Working Reagent R2” respectively. Store the Working Reagents at 2-8°C. When prepared and stored as directed the Working Reagents are stable for 60 days at 2-8°C.

#### Interfering Substances

Samples with the following concentration substances have no significant effect on the accuracy of this Bile Acids procedure:

Lipemia (Triglycerides)  $\geq$  1000 mg/dl

Extremely icteric serum may produce erroneous results. If this is the case, make a suitable sample dilution with physiological saline and assayed sample. Multiply result obtained by the dilution factor.

#### Method Performance Characteristics

**Sensitivity:** Using a pathlength of 1 cm, a  $\Delta$ -absorbance of 0.0016-0.0024 per mg/ml should be obtained.

**Linearity:** In this procedure there is not significant nonlinearity over the range of 0-250  $\mu$ mol/L.

**Precision:** Precision data obtained using three levels of protein based controls and following the NCCLS EP5-T2 procedure. The following results were observed.

#### Accuracy

Correlation studies were carried out between this automated Bile Acids method (Y) and a reference automated Bile Acids procedure based on the 3 $\alpha$ -HSDH and Diaphorase reactions (X). Canine serum samples were assayed and the results compared by the least square regression. The following statistics were observed:

#### Correlation

Bile Acids	Regression
Range	1.0-159.8 $\mu$ mol/L
Mean of Y	48.50 $\mu$ mol/L
Mean of X	50.95 $\mu$ mol/L
Linear Equation	$X = 0.924x + 4.2$
r	0.996
Sy.x	4.08

#### Precision

B. ACIDS Mean $\mu$ mol/L	Within-Run Precision		Total Precision	
	SD $\mu$ mol/L	CV %	SD $\mu$ mol/L	CV %
6	0.23	3.85	0.26	4.51
25	0.77	3.00	1.23	5.01
150	2.84	1.86	7.30	5.08