

Specialty Vet Tests from Catachem

Formulated to the specific needs of the veterinary laboratory



Catachem continues to work closely with its customers to design specialty chemistry tests formulated to the specific needs of the veterinary laboratory.

These reagents offer strong performance in terms of accuracy, precision and linearity. Veterinary blood samples are frequently milky and turbid due to high levels of lipids. Catachem has developed a unique clearing agent, CataClear, (CLR-525) for even the most lipemic samples, allowing accurate analysis of the sample's components. Animal blood can also easily become hemolyzed during the trauma involved in obtaining a sample. Catachem reagents are optimized to handle the "less than perfect" samples that veterinary laboratories regularly encounter.



Bile Acids: (C404-0A; C402-0A)

Bile acids are measured in animals primarily to detect hepatic injury where fasting levels can be compared to postprandial levels to evaluate liver function. A more specific use is in the determination of Bile Acids malabsorption possibly due to ileal dysfunction. Catachem's method is a multi-enzymatic colorimetric method resulting in color formation in the 540-550 nm range. Triglycerides levels of up to 1000 mg/dL will not interfere with the assay which will accurately measure bile acids to a level of 250 $\mu\text{mol/L}$. Levels of concern for both cats and dogs start at around 25 $\mu\text{mol/L}$.

bromide in the dog's blood to ensure the correct dosing for the size of the dog. Catachem's bromide reagent accurately determines levels from 5 mg/dL to 400 mg/dL. Toxicity in most dogs begins at approximately 120 mg/dL. The assay is designed for use on automated analyzers and has a 60 day on-board stability to accommodate the ebb and flow of testing volume.

Bromide: (C424-0B; C422-0A)

Potassium bromide is a drug used in the same manner as phenobarbital to control nervous system disorders in dogs. As it can be toxic at high levels, it is important to measure levels of circulating



β -Hydroxybutyrate: (C444-0A; C442-0A)

Diabetic animals build up high levels of keto acids in their blood. The assay of one of the more stable keto acids, β -hydroxybutyrate, is valuable in assessing diabetic status and in monitoring the treatment of diabetic animals. Catachem offers a simple and accurate assay for β -hydroxybutyrate that can be used on most clinical analyzers. Unlike some competitive products that use a strong formazan dye which stains cuvettes and instrument reagent lines, the Catachem reagent uses an alternative chemistry eliminating this problem.

Ethylene Glycol: (Quantitative – C504-0A)

Ethylene glycol is the main component in most antifreeze products. The ingestion of ethylene glycol can quickly poison an animal, leading to irreversible liver and kidney damage if not rapidly detected and treated. Catachem has developed an accurate quantitative test to

determine ethylene glycol levels. Values compare well to values obtained by GC/MS methods. Catachem's reagent has been designed to eliminate interferences from propylene glycol which is sometimes used as an additive to some veterinary drugs and foodstuffs.

Ethylene Glycol: (Qualitative – C504-0B)

Catachem offers a qualitative ethylene glycol test using the same enzymatic technology as its quantitative reagent. This self-contained screening test offers the veterinarian a useful tool in an emergency situation. Although as a screening test, it is slightly less accurate and precise than its quantitative counterpart, this reagent is sensitive to ethylene glycol levels as low as 5 mg/dL. Like Catachem Quantitative test, it is also unaffected by ethanol treatments allowing its use when an animal is on ethanol therapy during recovery.

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Fructosamine: (C414-01/02; C412-0A)

Diabetic animals produce high levels of fructosamine. Monitoring fructosamine over time, similar to monitoring glycated hemoglobin (HbA1c) in humans, allows the veterinarian to assess the animal's glycemic control over a broader time period and therefore the effectiveness of treatment. Catachem offers a single liquid stable fructosamine assay with an 18 month shelf life. The reagent is stable on board an analyzer for at least 30 days.

Nonesterified fatty acids (NEFAs) (C514-0A)

Nonesterified or "free or unsaturated" fatty acids, generally referred to as

NEFAs, are contained in the fat stores of the animal, mainly as triglycerides. Low concentrations of NEFAs are found in normal healthy animals, however, increased concentrations can arise due to fat breakdown or lipolysis which occurs when the animal is forced to metabolize its fat reserves to make up for low glucose availability in its food supply. Higher concentrations of NEFAs in the animal's serum, indicate insufficient glucose to meet the animal's energy needs, a situation in which the animal is essentially undernourished. This negative energy balance is deleterious to the growth, health and productivity of an animal, especially in a dairy cow.

Catachem's assay for NEFAs involves the enzymatic conversion of NEFAs using two key enzymes to generate hydrogen peroxide which is quantified using a colorimetric detection system in the 520 nm-550 nm range. The assay has a 30 day working reagent stability and can be applied to most automated chemistry analyzers.



Plasma Free Hemoglobin: (C464-0A; C462-0A)

Normal plasma should not contain free hemoglobin. Damaged red blood cells can be caused by certain disease states or by dialysis, heart pump, etc. and can release hemoglobin (intravascular hemolysis) into the plasma. Catachem has developed an extremely sensitive assay for accurately measuring very small amounts of hemoglobin, to levels approaching 2 mg/dL (1.2 $\mu\text{mol/L}$) with a linearity of up to 100 mg/dL (60 $\mu\text{mol/L}$). This assay, unlike similar methods in the past, can be run successfully on most clinical chemistry analyzers.

Sorbitol Dehydrogenase (SDH): (C434-0A; C432-0B)

SDH (sometimes called iditol dehydrogenase) is a very specific indicator of liver disease especially in large animals (horses and cows) in which it is regarded the method of choice for detecting hepatocellular injury. The SDH enzyme in serum is stable only for a short period after collection and must be assayed quickly. Catachem's assay at 340 nm can be run on most analyzers either using a factor or using an SDH calibrator. The latter is often preferred with this assay and a new lyophilized calibrator produced by Catachem has made this approach more cost effective.



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