Your Continuing Contribution to Veterinary Medicine

More than 15 years ago, the Division of Comparative Pathology established a section of our laboratory with the goal of providing a strong avian, exotic, and wildlife diagnostic test array to meet the changing needs of our veterinary clients. The response of the veterinary community has been exceptional. The wealth of unique samples that have been submitted to our laboratory as well as the funds derived from performing the clinical tests has combined to provide numerous opportunities to perform valuable research studies and further the field of veterinary medicine. Your contributions have been invaluable.

We know there are many options open to you in the selection of laboratories to perform your diagnostic testing. We value your continued consideration of our services and welcome your collaborative efforts in furthering the field of avian, exotic, and wildlife medicine.

Our commitment to specialized veterinary medicine:

- 66 presentations at national and international meetings
- 60 journal articles
- 4 book chapters

See more about our lab at www.cpl.med.miami.edu
Contact us at (800)596-7390 or compathlab@med.miami.edu
Updated *Encephalitozoon cuniculi* Panel

Our studies over the past year have produced new data that has resulted in the modification of the existing ECUN Panel. Rather than wait until study publication, we have chosen to make these new tests available at this time. The price of the panel will remain the same at $40; panel components (IgG, IgM, CRP) can be requested separately. The panel changes include the following:

**Addition of ECUN IgM titer** – We have observed IgM titers in ECUN suspect rabbits. These data are further supported by two publications by Faldyna and coworkers (*Vet Parasitol* 170:143-148, 2008, *Parasitol* 137:1749-1757, 2010). In both natural and experimental infection, significant IgM titers were reported.

**Addition of C-Reactive Protein/Elimination of Protein Electrophoresis** – CRP is a major acute phase protein of rabbits and is one of many proteins which combine to change fractions seen in protein electrophoresis. Understandably, specific APP assays afford sensitivity above EPH in gauging the acute phase response. We have observed that nearly 50% of ECUN suspect rabbits demonstrate an elevated level of CRP. While not diagnostic of ECUN infection, this acute phase protein marker indicates the presence of a systemic inflammatory process. APP are well documented to offer superior prognostic information (vs. traditional markers such as total WBC and fibrinogen) so follow up CRP testing may have specific value in rabbits under treatment. Protein electrophoresis continues to be available as an add-on test. As with EPH submissions, hemolysis should be minimized. Testing should occur with 2 days of sample acquisition. Samples subject to greater delays to the laboratory should be frozen.

**Ferret Adrenal Panel**

The presence of clinical signs, ultrasound, and exploratory surgery are valued methods for the diagnosis of ferret adrenal cortical disease. In addition, much excellent foundation work has been completed indicating the application of adrenal hormone testing including estradiol, hydroxyprogesterone, and androstenedione.

These tests have been previously implemented and validated by the Endocrinology laboratory at The University of Tennessee. After an extensive period of testing and validation, we now offer these assays for the use of our clients. The panel is performed daily for a cost of $60. Our FedEx shipping program is also available to defray additional costs. Please contact the laboratory for more information.

*Using and establishing the diagnostic standards. No shortcuts in handling your samples.*

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Acute Phase Protein Laboratory

The Acute Phase Protein Laboratory was established in 2010 after a lengthy research investigation to implement and validate new methodologies. Acute phase proteins (APP) are valued biomarkers in human medicine and have been commonly used in all areas of veterinary medicine in Europe for many years. These assays were not commonly available in the United States until now.

APP are key markers of an inflammatory response. APP are commonly increased with trauma, infection, stress, neoplasia, and inflammation. This pathway to restoring function and healing is found in all animals and man. While these proteins are not specific for a particular disease, they have been valued in human and veterinary medicine for their sensitivity to underlying health problems. They are used as part of wellness exams where they provide valuable adjunct information to routine blood work like a complete blood count and biochemistry panels. In addition, in animals with acute or chronic disease, these markers have key value in prognostication. As the animal responds to treatment and since APP have a short half-life, the biomarkers drop very quickly.

Assays have been validated for use in dogs, cats, and horses and a wealth of publications are available documenting the use of the these APP in veterinary medicine. At the 2011 AAZV meeting, we presented our initial studies examining APP expression in elephants, manatees, and rhinoceros. We also presented our work with APP expression in rabbits and birds at the 2011 AAV meeting. Ongoing studies include examination of these inflammatory biomarkers in fish, reptile species, and ferrets.

Honors

Dr. Carolyn Cray was awarded the Safe Capture International Award for best presentation at the 2011 AAZV meeting in Kansas City. Her presentation was entitled, “Application of Acute Phase Protein Assays in Wildlife Medicine”. This presentation reviewed the concept of using these biomarkers of inflammation in zoo and wildlife species. Specific study data was presented on elephants, rhinoceros, and manatees.

Many thanks to co-authors including Dr. Maya Rodriguez at the Miami Seaquarium, Dr. Gregory Bossart and Lynda Leppert at the Georgia Aquarium, Dr. Scott Citino and Marcie Oliva at the White Oak Conservation Center, and Drs. Jeff Stanton and Alan Herron at Baylor College of Medicine.

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Recent Publications


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Please visit our updated website to learn more about the Avian & Wildlife Laboratory and the Acute Phase Protein Laboratory. All feedback is very much appreciated.

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