



ENDOCRINOLOGY SUBMISSION GUIDE

Test Protocol and Sample Handling for more accurate results:

1. Proper sample collection is critical. Avoid hemolysis or lipemia. Please do not send whole blood or use serum-separator tubes.
2. **†SERUM COLLECTION:** Serum is required for most endocrine tests offered. Serum should be collected and submitted as follows:
 - a. Collect blood in plain, red top tube (or tube with no additives). Allow clot to form (about 1 hr at RT or 2-4 hr at 4C), or longer as necessary to ensure *complete* clot formation.
 - b. Centrifuge (after clot formation) and transfer serum to a plain, plastic tube such as snap cap or screw top microcentrifuge.
 - c. Refrigerate or freeze. Ship overnight with cold packs to arrive Monday-Friday. Do not ship to arrive on a holiday.
3. ***PLASMA COLLECTION:**
 - a. Collect blood by venipuncture into *iced* EDTA tubes, and note time collected. Invert several times ensure mixing of EDTA and blood.
 - b. Place tubes into ice bath immediately after collection.
 - c. Separate plasma by cold centrifugation.
 - d. Transfer plasma into a plastic or siliconized glass tube and freeze immediately.
 - e. Ship overnight with cold packs to arrive Monday-Friday. Do not ship to arrive on a holiday.

Test	Protocol and Sample Handling
Cortisol, baseline †0.5 mL serum	Baseline cortisol is measured as part of the ACTH Response and dexamethasone suppression tests below and is not recommended for assessing adrenal function.
ACTH Response Test, Cortisol †0.5 mL serum per sample For diagnosis of hypoadrenocorticism (Addison disease), hyperadrenocorticism (Cushing's disease).	1. Collect baseline serum first. 2. Dogs: Administer ACTH (Cortrosyn) at 5 µg/kg by IV and sample 1 hr post (and at 2 hr post for 3 sample test). 3. Cats: Administer 25 µg/kg IM (maximum 125 µg/cat) and sample 1 hr post. If using ACTH gel, administer 2 IU/kg IM. Sample at 1 hr and 2 hr post.
Trilostane Therapy Monitoring, Cortisol (Resting, baseline for medication monitoring) †0.5 mL serum per sample For monitoring the treatment of hyperadrenocorticism or hyperadrenocorticism, and adrenal function.	1. Collect a baseline serum sample drawn just before trilostane is administered. 2. Mark hours on the submission form hours since the last pill was administered. 3. 4-6 hr after trilostane is administered, follow the ACTH Response protocol above.
Endogenous ACTH Test 1.0 mL EDTA plasma (lavender) For establishing or monitoring equine PPID. Helpful in differentiating pituitary-dependent hyperadrenocorticism from adrenal tumors.	Must be processed immediately to avoid ACTH degradation. Collect blood in EDTA, mix by inverting and separate by centrifugation quickly. Transfer to a clean, plastic tube. Freeze and ship overnight on ice or dry ice to arrive Monday-Friday. Do not ship to arrive on a holiday.

<p>Low Dose (LDDS) or High Dose (HDDS) Dexamethasone Suppression Test †0.5 mL serum per sample (red top/no additive)</p> <p>Used to identify Cushing’s disease, PDH</p>	<p>Low Dose <u>Dogs:</u> Collect baseline sample, administer 0.01 mg/kg dexamethasone IV. Obtain samples at 4 hr and at 8 hr post dexamethasone. <u>Cats:</u> Collect baseline sample, administer 0.1 mg/kg dexamethasone IV. Obtain samples at 4 hr and 8 hr post dexamethasone.</p> <p>High Dose <u>Dogs:</u> Collect baseline sample, administer 0.1 mg dexamethasone/kg IV. Obtain samples at 4 hr and 8 hr post dexamethasone.</p>
<p>Urinary Cortisol : Creatinine Ratio 2 mL urine (if pooling, use equal volumes)</p> <p>Useful screening test for canine hyperadrenocorticism</p>	<p>Have owner collect urine at home under non-stressful conditions. Pooling morning urine samples from 3 consecutive days is ideal.</p>
<p>All THYROID Tests †1-2 mL serum (red top/no additive, NOT serum separator)</p>	<p>For canine and equine patients and monitoring thyroid supplementation: collect sample 4-6 hr post pill and specify type of therapy, dose, and time post pill. Timing of sample not important for monitoring hyperthyroid cats being medically managed.</p>
<p>TRH Response (Stimulation) Test, ACTH – Equine *1.0 mL EDTA plasma (lavender)</p> <p>For establishing or monitoring equine PPID.</p>	<p>Follow plasma collection instructions above. Collect baseline sample, administer 1 mg (total dose) TRH IV and collect samples 10 and 30 min after injection.</p> <p>Freeze and ship overnight on ice or dry ice.</p>
<p>TRH Response (Stimulation) Test, Thyroid – Equine †1.0 mL serum</p> <p>For establishing or monitoring equine hypothyroidism.</p>	<p>Collect baseline serum sample, administer 1 mg of TRH IV and collect sample 4 hr after injection.</p>
<p>Dexamethasone Suppression Test – Equine †1.0 mL serum</p> <p>For establishing or monitoring equine PPID.</p>	<p>Collect baseline sample, administer 0.04 mg/kg dexamethasone (20 mg for 500 kg horse) IM and collect a second sample 19 hrs later.</p>
<p>Insulin †0.5 mL serum (do not use EDTA)</p> <p>Equines: to diagnose Equine Metabolic Syndrome and insulin resistance Small animals: diagnose diabetes</p>	<p>Very important to avoid hemolysis, which can lead to erroneously low values. Follow collection procedure for serum.</p>
<p>Progesterone †0.5 mL serum (do not use EDTA or gel barrier tubes)</p> <p>Important hormone in pregnancy</p>	<p>Follow collection procedure for serum.</p>
<p>Testosterone †0.5 mL serum or heparinized plasma</p> <p>Important hormone in sex characteristics in males, and females for growth and maintenance, and body repair.</p>	<p>Follow collection procedure for serum.</p>