Sample Collection and Processing for Cortisol Testing

Adrenal function tests should be started in the morning to avoid possible circadian fluctuations in cortisol.
1. Draw all blood samples into plain red-top tubes and allow blood to clot at room temperature for approximately one hour. If more time is needed prior to centrifugation, specimen can be stored in the refrigerator for 2 – 4 hours.
2. Centrifuge samples at a speed and time that allow for adequate separation and sample yield.
3. After centrifugation draw off serum and transfer to a tube or vial suitable for frozen storage and/or shipping.
4. Frozen storage is recommended for serum samples if time before shipping will be 12 hours or more.
5. Optimally, ship samples frozen with cold packs. A frozen sample is not necessary for hormone stability, but does better ensure arrival of a chilled sample for more accurate test results.

Note: Do not use serum separator tubes as these gels/clot activators can falsely elevate results.

Endogenous ACTH

This test can be helpful in differentiating pituitary-dependent hyperadrenocorticism from adrenocortical tumor. Dogs with increased endogenous ACTH concentrations are more likely to have pituitary-dependent disease. Adrenal tumors are usually independent of pituitary control.
1. Draw an EDTA specimen sample (purple-top tube). Fill tube to capacity (if possible) and invert several times to mix EDTA with blood.
2. Immediately centrifuge sample to separate plasma from cells. Transfer plasma to a plastic tube or vial and freeze promptly after centrifugation is completed. Canine samples must be stored in plastic.
3. Ship frozen sample via overnight courier with cold packs. Samples must be received at least cold or partially thawed to ensure accurate test results but frozen samples are recommended and preferred.

Note: Canine ACTH is very unstable in whole blood samples. It is most affected by heat and time spent on red blood cells.