

# ACTH

## STIMULATION TEST (Canine)

### SAMPLE REQUIRED:

Serum (0.5 mL) or Clotted blood (1.5 mL)

### BLOOD TUBE REQUIRED:

Gel (gold top) or plain (red top).

#### Test Use:

- To diagnose hypoadrenocorticism (Addison's disease) and iatrogenic hyperadrenocorticism in dogs.
- To assist in the diagnosis of hyperadrenocorticism in dogs.
- To monitor response to therapy for hyperadrenocorticism.

#### Protocol:

- If glucocorticoids have been administered recently, refer to Notes below.
- If testing for hyperadrenocorticism, maintain the dog in a stress free environment.
- In the morning, collect a resting blood sample and label it "0 h".
- Administer synthetic ACTH (e.g. Synacthen® Novartis) (non-depot formulation) at 250 ug/dog IM or 5 ug/kg IV or IM. For depot formulation of Synacthen, use 250 ug/dog IM.
- Collect a 1-hour post-ACTH blood sample and label it "1 h".
- Store samples at 4°C and submit both samples together to the laboratory. If transport to the laboratory will be delayed (> 12 hours), the sample should be centrifuged and the serum separated.
- On the laboratory submission form, list samples and collection intervals, note the reason for testing and note any recent corticosteroid therapy.

#### Following medical therapy for hyperadrenocorticism an ACTH stimulation test should be performed:

##### Trilostane

- 10 days, 4 weeks, 12 weeks and then every 3 months following initiation of trilostane therapy and following dose adjustments.
- Perform the test 4-6 hours after administration of trilostane.

##### Mitotane

- 48 hours after the last loading dose OR 8-9 days after commencing therapy.
- Once maintenance therapy has commenced, recheck every 2-6 months.

#### NOTES:

- Specific testing for hyperadrenocorticism should not be performed in unwell or significantly stressed animals, which may yield false positive results in adrenal function tests. In potentially hyperadrenocorticoid dogs with significant intercurrent disease such as diabetic ketoacidosis or pancreatitis, adrenal function testing should be delayed until intercurrent disease is controlled.
- Specific testing for hypoadrenocorticism (Addison's disease) may be done in unwell/stressed animals.
- Anticonvulsant therapy (phenobarbital, primidone, phenytoin) may cause an elevated post-ACTH cortisol concentration.
- Any form of corticosteroid therapy may interfere with adrenal function tests, by (a) cross-reacting in the cortisol assay (except for dexamethasone), or (b) affecting the pituitary/adrenal axis via suppression of ACTH production. As a guide, the minimum periods for which corticosteroid therapy should be withheld before an ACTH stimulation test are:
 

Injectable (short acting)	7 days (48 h if dexamethasone, except in a potential Addisonian dog, see below)
Oral	2 weeks
Topical	2 weeks
Injectable (depot)	2 months
- If glucocorticoid therapy is required for immediate management of a potential Addisonian dog, a single dexamethasone dose should be used as this will not interfere with the ACTH stimulation test.