

ACTH Stimulation Test

SAMPLE REQUIRED:

Whole blood in a serum tube, minimum of 1ml per time point

BLOOD TUBE REQUIRED:

Serum tube, red top or gold top

Indications:

Diagnosis of hyperadrenocorticism (spontaneous or iatrogenic) and hypoadrenocorticism.
Treatment of hyperadrenocorticism.

Collection Protocols:

Standard ACTH (aqueous solution) stimulation protocol

1. Take a 0h blood into a serum tube
2. Inject 5µg/kg Synacthen® IV
3. Take another blood sample 1h later into a serum tube
4. Label sample times clearly on the tubes
5. Tick ACTH stim (code VAS) I on submission form
6. If only submitting the 1h sample, tick cortisol (code COV) but indicate in history that an ACTH stim test performed.

Vetnostics' post-stimulation reference range and interpretation is based on this protocol. If using another protocol eg 1 ug/kg IV with testing exactly 60 minutes later (also adequate) or IM/SC protocols, the test details must be included. Synacthen can be stored frozen in appropriate aliquots for 6 months.

Depot ACTH (Synacthen® Depot) stimulation protocol

1. Collect a basal (0 hour) blood sample into a serum tube
2. Inject 250ug of Synacthen® Depot IM
3. Collect a further blood sample into a serum tube 60 mins later
4. Label sample times clearly on the tube
5. Clearly indicate on the submission form that Depot Synacthen formulation was utilised as well as indicating dosage and blood sampling times
6. Tick ACTH stim (code VAS) as normal on submission form
7. If only submitting the 1h sample, tick cortisol (code COV) but indicate in history that an ACTH stim test performed

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ACTH Stimulation Test continued...

The Vetnostics reference intervals are not validated for this procedure. There is limited data available to assess the post-stim cortisol concentrations after depot Synacthen relative to the cortisol concentrations observed after aqueous Synacthen). From the limited literature available, testing at 60 minutes would appear to be the best approximation. Given that there is no longer a price advantage of depot Synacthen, we do not recommend this product routinely unless aqueous Synacthen is not available. There is no data that would validate freezing of any remaining depot Synacthen.

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

Trilostane

Perform the test 4-6 hours after administration of trilostane.

Mitotane

Perform the test 36-48 hours post administration of mitotane.

Notes:

- Diagnostic testing for hyperadrenocorticism should not be performed in dogs that have severe non-adrenal illness as false positive test results may occur. In dogs with significant concurrent disease such as diabetic ketoacidosis or pancreatitis, adrenal function testing should be delayed until concurrent disease is either resolved or reasonably stable.
- Specific testing for hypoadrenocorticism (Addison's disease) may be done in sick animals.
- All corticosteroids apart from dexamethasone will cross-react with the cortisol assay to some extent. To avoid cross-reaction interfering with the assay results, the following withholding times are recommended:
 1. Cortisone acetate 12h
 2. Prednisolone 24h
 3. Fludrocortisone 24h

When assessing for hyperadrenocorticism in a dog that has been receiving corticosteroids, the appropriate withholding time must be observed and an ACTH stimulation test used in preference to a low dose dexamethasone suppression test.

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.