

## Canine ACTH stimulation test

### Indications

- Diagnosis of hyperadrenocorticism (Cushing's syndrome)
- Diagnosis of hypoadrenocorticism (Addison's syndrome) or iatrogenic hyperadrenocorticism
- Monitoring of adrenal reserve in patients receiving treatment for hyperadrenocorticism [e.g. trilostane (Vetoryl®) and occasionally mitotane (Lysodren®)].

### Notes

- The ACTH stimulation test has a lower sensitivity but higher specificity than the low-dose dexamethasone suppression test (LDDST) for the diagnosis of canine hyperadrenocorticism.
- The results of the ACTH stimulation can be affected by prior glucocorticoid administration (including topical medications), stress (excitement) and other/concurrent disease.
- Interpretation of the results **MUST** be made in the context of the history and clinical findings as both false positive and false negative results can occur.
- If exogenous glucocorticoids have been administered a withdrawal period may be required before an ACTH stimulation test is performed to allow normalization of the pituitary-adrenal axis. Please contact the reference laboratory for further advice.
- Other drugs including delmadinone, osaterone and progestagens such as proligestone may affect ACTH test results for a variable period. Please contact the Reference Laboratory for further advice.

### Protocol

- Collect a baseline blood sample (1-2 ml of blood in plain/gel tube).
- For patients receiving trilostane (e.g. Vetoryl®), collect the first sample 4-6 hours post-pill and use test code ACTV for appropriate interpretation of the results.
- Administer at least 5 µg/kg of ACTH (tetracosactide) intravenously.\*
- Collect the second sample 60 minutes post-ACTH injection (1-2 ml of blood in plain/gel tube).
- Ensure the samples have clotted and centrifuge the samples 30-120 minutes after collection.
- For samples collected in plain tubes, please separate the serum into another plain tube (this step is not necessary for samples collected in gel tubes).
- Please label all tubes with the patient's name and the time of sampling.
- Please include the patient history, including drug history, on the request form.
- Submit both separated serum samples and the request form to the reference laboratory.
- Cortisol will be measured in both samples.

\*The intravenous route is recommended but intramuscular injection can also be considered if intravenous administration is not feasible.

