Donnington Grove
LABORATORY

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Testing for PPID

Basal Plasma ACTH

Basal ACTH levels have been shown to be useful in horses with a high likelihood of PPID. However, a recent review concluded that basal ACTH is not recommended for screening purposes to detect PPID or use in horses without clinical signs of PPID (Meyer *et al*., 2021). Measurement of baseline ACTH is not recommended for screening purposes or use in horses without clinical signs of PPID.

Collect a single blood sample in an EDTA blood tube (see section with instructions for storage and shipping below). ACTH levels rise during autumn and reach a peak in September/October each year. The laboratory uses seasonally adjusted reference ranges, allowing sampling year-round.

For information on the reference intervals at different times of the year, see www.thelaminitissite.org.

TRH Stimulation Test

This test is the most sensitive available for borderline cases, or those with clinical suspicion of PPID but normal basal ACTH. It is not suitable for ongoing monitoring of pergolide treatment. It has been shown to perform better than basal ACTH for diagnosis of PPID (Horn *et al*., 2021). The test can be performed year-round, but ideally out of the autumn season, if possible, due to the confounding factor of naturally elevated ACTH levels.

Method:

1. Take a sample for basal ACTH.
2. Inject 1 mL (1 mg) TRH i.v. (0.5 mg for a pony).
3. Take second sample at 10 minutes.

ACTH values greater than 110 pg/mL at 10 minutes are consistent with a diagnosis of PPID. Side effects that may be observed in horses after TRH administration include yawning, lip movements, salivation, trembling, and coughing.

PPID and laminitis: if clinical signs of PPID include laminitis, testing for Equine Metabolic Syndrome (EMS) is also recommended. Consult our separate fact sheet *Testing for Equine Metabolic Syndrome*.

Shipping ACTH

ACTH is stable for 24 hours in cell-free plasma. This is based on the literature and our own internal studies (see our Fact Sheet "*Stability of ACTH*"). After 24 hours, the values will drop by up to 25% each day thereafter. So, we advise the following:

1. Chill the blood as soon as possible, and within a few hours of taking.
2. Separate the plasma. If a centrifuge is available, spin at 4000g for 4 minutes. Otherwise, leave to settle for several hours in the fridge.

3. Remove 1 mL of the plasm fraction and place in a clean tube (our kit provides 2 x 2 mL tubes for this purpose).
4. Place in the biohazard bag with a pre-frozen cold pack, place in the foil lined jiffy bag, and seal
5. Place in the polyope for Royal Mail Special Delivery and seal.
6. Drop off at any Post Office.
7. Note: Special Delivery incurs an extra charge. You can also send the foil-lined jiffy bag by pre-paid first-class mail if you prefer. Just place the bag pre-labelled with our return postage label into any post-box. We cannot guarantee it will be received next day.

If shipping is not possible same day, the sample can be frozen.

Our TRH Kit

We are able to supply a kit consisting of:

- TRH ready for injection.
- EDTA blood tubes and tubes for returning plasma.
- Printed instructions.
- Cold pack, chiller bag and pre-addressed pre-paid Royal Mail Special Delivery polyope.

1. TRH (1 mg in 1 mL)
2. Cold pack and biohazard bag
3. EDTA blood tubes for sampling
4. Tubes for recovered plasma
5. Foil-lined jiffy bag
6. Special Delivery polyope

These kits can be requested on our web site (www.dgvglab.com). Alternatively, you can request one by emailing lab@donningtongrove.com.

References

Horn R, Stewart AJ, Jackson KV et al. (2021). *Journal of Veterinary Internal Medicine* 35:560–570.

Meyer JC, Hunyadi LM and Ordóñez-Mena,JM (2021) *Equine Veterinary Journal* (https://doi.org/10.1111/evj.13500). Accessed 20 Jan 2022.

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