

Equine AMH

Granulosa Cell Tumors

We offer quantitative testing for equine Anti-Mullerian hormone (AMH) for the diagnosis of granulosa cell tumors in mares. A retrospective analysis of 44 cases that were subsequently confirmed after surgery indicated AMH was elevated in 90% of these, and is better than inhibin and testosterone combined (inhibin alone was elevated in 80% and testosterone in 48% of cases).¹ The panel consisting of AMH/inhibin/testosterone is 98% accurate in detecting tumors.

Unlike inhibin and testosterone, AMH level is not affected by pregnancy, and so is the most useful diagnostic analyte in these situations.

Cryptorchidism

AMH is also a highly precise test for the determination of cryptorchidism in geldings, especially in prepubertal colts, before testosterone levels have begun to rise.²

If cost is a concern, a compromise is to run a basal testosterone first, then determine AMH if the testosterone concentration is inconclusive. An hCG stimulation test for testosterone may be indicated if neither AMH, nor basal testosterone provides a clear result.

AMH has a long half-life (1.5-2 days)[1, 2] and therefore concentrations will take ten days to 2 weeks to reach baseline after castration.

Sample requirements

1. Please provide 1 ml of serum for the AMH test alone and 3 ml of serum for a panel containing AMH. Ship on a cold pack, ideally overnight.
2. Shipment by US Postal Service is not recommended. The shipment will be delayed in the campus mail room. The lab has a Fed Ex and UPS shipping program with reduced priced shipping.
3. Do not store sample in the fridge for more than 2 days. Store in a non-frost-free freezer if you are not able to ship it within that time. However, it does not have to be shipped on dry ice. Room temperature or even refrigerated storage for more than a few days will cause AMH to rise non-specifically.
4. The AMH test for equines is \$60. A panel consisting of AMH /inhibin/testosterone is \$130.

¹ Almeida, J., et al., *Biological and clinical significance of anti-Mullerian hormone determination in blood serum of the mare*. Theriogenology, 2011. **76**(8): p. 1393-1403.

² Claes, A., et al., *Serum anti-Mullerian hormone concentrations in stallions: developmental changes, seasonal variation, and differences between intact stallions, cryptorchid stallions, and geldings*. Theriogenology, 2013. **79**(9): p. 1229-1235.