College of Veterinary Medicine

Animal Health Diagnostic Center
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Owner: Polly Kornblith

Finalized Report

Accession Number: **153461-26**

Commonwealth Equine - (247790)
Dr Rebecca Ruemmler
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Rehoboth, MA 02769
774-301-2467

Sampled: 06/09/2026
Received: 06/11/2026
Finalized: 06/12/2026
Reference Number: Polly Kornblith

Endocrinology

Director Dr. Ned J Place - 607-253-3673

Test	Result	Reference Interval
1 **Monty** - Equine Friesian Castrate		
Plasma		
ACTH Baseline Equine	13.1 pg/mL	2.0 - 30.0
Serum		
Insulin Baseline Equine	38.05 uIU/mL	10.00 - 40.00
2 **Romeo** - Equine Equine, Nos Castrate		
Plasma		
ACTH Baseline Equine	13.2 pg/mL	2.0 - 30.0

Test Interpretations

ACTH Baseline Equine In Equine Cushing's Disease (Pituitary Pars Intermedia Dysfunction or PPID), the concentration of ACTH is greater than the reference values above. The higher the ACTH concentration is, the more likely the diagnosis of PPID. However, because of the irregular patterns of ACTH secretion, the concentration may be within the reference range. A low ACTH concentration could be due to incorrect sample type or handling procedure, a normal low point during daily secretion, administration of exogenous steroids (including joint injections), or treatment with pergolide. Horses exhibiting clinical signs of PPID, but with an ACTH that is within reference range, should be retested in 1 – 6 months or an alternate test should be considered. The TRH response test (pre- and 10 minute post TRH) is recommended. If equine metabolic syndrome is a possible diagnosis or complication, insulin and leptin tests are recommended.

Precautions for ACTH: Seasonal elevation of ACTH levels in the U.S. occurs from August into October. Samples taken during this time period may have up to 4 times reference levels of ACTH in normal horses. Horses with PPID tend to have even higher ACTH concentrations in this time period. Equine plasma concentrations of ACTH are affected by stress, exercise, and some drugs. ACTH is readily metabolized in whole blood and serum samples. Blood samples must be collected with EDTA as the anticoagulant. Samples should be kept chilled and plasma removed from cells within 4 hours after collection. Test results from samples left on cells longer than 4 hours should be interpreted with caution. Horses should not be exercised or stressed before drawing blood samples because this may increase ACTH levels.

Test method performed by Chemiluminescent Immunoassay (CLIA).

Insulin Baseline Equine The insulin reference range given is for horses on pasture or given hay before testing. Horses fasted overnight are expected to have insulin levels <20 uIU/mL. In Equine Metabolic Syndrome (EMS), the concentration of insulin is generally greater than the reference values above. Horses with insulin concentration near the high end of the reference range may require the oral sugar test (OST) to determine whether or not the horse has EMS. High insulin concentrations may also be caused by grain meals, pregnancy, PPID, and illness. If elevated insulin may be due to pituitary pars intermedia dysfunction (PPID, Cushing's syndrome), then ACTH baseline, TRH response: ACTH, or dexamethasone suppression test are recommended. When alternate explanations for hyperinsulinemia are considered (e.g., pre-test grain meal, PPID, pain or other sources of stress), a leptin test may aid in the diagnosis of EMS, because leptin is often elevated in EMS and less affected by the other factors that modulate insulin .

Measurement is performed by radio immunoassay (RIA).