



**Animal Health Diagnostic Center**

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<https://ahdc.vet.cornell.edu>

Owner: Polly Kornblith

**Addended Report**

Accession Number: **153649-25**

C3 Equine Veterinary Services, LLC - (451370)

Dr Christy Cullen

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Westborough, MA 01581

508-479-4968

Sampled: 06/05/2025

Received: 06/11/2025

Finalized: 06/17/2025

Reference Number: Polly Kornblith

**Accession Comments**

Insulin added by clinic.

**Endocrinology**

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

Test	Result	Reference Interval
<b>1 Luna - Equine Warmblood, Nos Female</b>		
Plasma		
ACTH Post TRH 10 min	Post: 45.4 pg/mL	2 - 110
Insulin Baseline Equine	5.39 uIU/mL	10.00 - 40.00

**Test Interpretations**

**ACTH Post TRH 10 min** ACTH: Normal horses will have ACTH levels within the reference ranges above. Horses with equine Pituitary Pars Intermedia Dysfunction (PPID)/Cushing's Disease, will generally have pre- and post- TRH concentrations of ACTH greater than the reference values above\*. An "intermediate interval" for the post-TRH is suggested between 110 and 200 pg/mL where diagnosis depends on clinical impression. A low ACTH concentration could be due to a normal low point during daily secretion, incorrect sample type or handling procedure, administration of exogenous steroids, or treatment with pergolide. Some cases of PPID have normal baseline ACTH secretion, but post-TRH levels are above the reference range demonstrating loss of receptor specificity. Seasonal (Fall) TRH response values seem to be exaggeratedly high and post- pergolide treatment effects on the TRH response test have not been fully evaluated. If equine metabolic syndrome is a possible complicating factor, insulin and leptin tests are recommended.

\*Reference ranges for the post-TRH were established by the Equine Endocrinology Group.

Precautions for ACTH testing: Seasonal elevation of ACTH levels in the U.S. occurs August into October. 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 8 hours after collection. Plasma samples may be stored frozen up to 6 months.

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).