

## UC Davis Clinical Endocrinology Laboratory

### Volume Required:

Testosterone: 2 mL serum

AMH equine: 1 ml serum

Estrone Sulfate, Progesterone: 1 mL serum each.

Inhibin: 1 ml serum, sent overnight on ice.

AMH Canine/Feline Spaychek: 200  $\mu$ L serum, fasted, 30 days post- surgery. Send 0.5 ml for Progesterone/AMH and 2 ml for testosterone/AMH.

Cryptorchid Panel: 2 mL serum

Pregnancy Panel: 2 mL serum

Granulosa Cell Tumor Panel: 3 mL serum

### Sample Handling and Shipment Requirements:

**PLEASE SEND SERUM ONLY**, no whole or clotted blood. Blood contains active enzymes which may affect the results. The use of serum separator tubes is not recommended; they may degrade the analytes, particularly progesterone and AMH, and may invalidate results. Draw in a tube with no additive (red top). If you do use a serum separator tube, transfer the serum to a new tube as soon as possible.

#### ***For AMH and inhibin testing:***

Please separate the serum and ship priority overnight on an ice pack.

Store the sample in the freezer if shipping will be delayed, but you may ship it on an ice pack, dry ice is not required.

Do not ship the sample via the US Postal Service, as the delivery will be delayed in the campus mailroom for up to a week, causing sample degradation. **Do not ship the samples to arrive on a holiday or a weekend**, as UPS and Fed Ex will not deliver it to us, and it will sit at the shipping facility, causing sample degradation. Please check our site for university holidays.

#### ***For steroid hormone (testosterone, DHP, progesterone, estrone) testing:***

These hormones are more stable; however, they may be degraded by poor handling conditions, and shipment as whole or clotted blood.

Shipment by US Postal Service is not recommended for a fast turnaround, as the sample will be delayed up to one week. Alternatively, you may ship this type of sample 2- day or ground via Fed Ex or UPS.

### Shipping Instructions:

You may obtain a reduced price Fed Ex shipping label through our program.

Specimens sent to our teaching hospital on Garrod Drive, or other UC Davis lab will be delayed in reaching our lab. Ship to:

**UC Davis ENDOCRINOLOGY LABORATORY  
1089 Veterinary Medicine Dr.  
Bldg: VM3B room 3230  
DAVIS, CA 95616-5270**

### Testing schedule and payment:

- All tests are run on a weekly basis. See our website for holiday exceptions.
- Samples must be received in the lab by Wednesday morning of each week to receive results for testosterone, inhibin, progesterone, and estrone sulfate that same week.
- Feline/canine AMH is run on Tuesdays. Equine AMH is run on Mondays.
- Results are reported on Thursday (progesterone and estrone sulfate), Friday (testosterone and inhibin), Monday (AMH-equine), and Tuesday (feline/canine AMH).
- Credit card payment is required before the assays can be reported. Alternatives, if approved, include billing or credit card number held on file. Checks included with shipment should be made to "UC Regents".
- Cost per assay includes interpretation, phone/fax charge, and consultation with a veterinarian as required or requested.

## LABORATORY REFERENCE RANGES

### PROGESTERONE:

*Equine Female:* Absence of active luteal tissue: 0.1 to 0.5 ng/mL

Borderline for the presence of luteal tissue: 0.5 to 1.0 ng/mL

Presence of luteal tissue: > 1.0 ng/mL

Adequate for the maintenance of early equine pregnancy: > 4.0ng/mL

*Camelid Female:* Indirect determination of pregnancy >2.0 ng/mL

*Canine/Feline Female:* Absence of active luteal tissue: 0.1 to 0.5 ng/mL, Borderline: 0.5 to 1.0 ng/mL

Presence of luteal tissue: > 1.0 ng/mL

### ESTRONE SULFATE:

*Equines and goats*

*Equine Female:*

*Standard size mares:* non pregnant or pregnant (first 45 days of pregnancy)

0.1-6.0 ng/mL. Borderline 6.1 -10 ng/ml. Pregnancy of 45 days or greater > 10.0 ng/mL

*Miniature mares:* non pregnant or pregnant (first 80 days of pregnancy) 0.1-60.0 ng/mL

Pregnancy of 80 days or greater > 60.0 ng/mL

*Equine Males:* Cryptorchidism (not recommended, serum testosterone levels suggested)

*Gelding* <0.1 ng/mL; *Cryptorchid* 35-60 ng/mL; *Stallion* 140 – 200 ng/mL

*Goats:* pregnancy over 9 weeks gestation >8 ng/mL

**We do not have estrone sulfate reference ranges for donkeys, mules, sheep, cows, felines or canines.**

### TESTOSTERONE:

*Male:* Cryptorchidism determination from single serum sample

*Equine:* *Gelding* < 50 pg/mL; *Cryptorchid:* 100-500 pg/mL; *Mature stallion:* 800-2000 pg/mL;

*Canine/Feline male:* Castrated less than 50 pg/mL, cryptorchid 100-500 pg/mL; intact greater than 1000 pg/mL.

*Other male:* Castrated <50 pg/ml; *inconclusive* 51-100ng/mL; *cryptorchid* 101-500pg/mL; *intact male* 800-10,000 pg/mL.

*Female:* Granulosa cell tumor determination:

*Non-pregnant mare:* Normal 20 – 45 pg/ml; Marginally elevated: 45-70 pg/ml; Elevated: 70-100 pg/ml;

Indicative of tumor: ≥100pg/ml.

### hCG stimulation test Protocol:

*Equine:* Baseline blood sample followed by the administration of 2500 IU of hCG IM or IV.

2 hours post-stimulation draw a second blood sample.

*Small animals:* Baseline blood sample followed by the administration of 50 IU/Kg of hCG IM or IV. 2 hours post-stimulation draw a second blood sample.

### INHIBIN: EQUINE ONLY

*Mare:* Normal ranges for a non-pregnant mare 2-60 pg/ml, approaching the upper limit of normal 60.1-100 pg/ml.

Mares with inhibin levels >100 pg/mL indicative of tumor, or possibly estrus.

*Stallion:* Normal range to be determined.

**The lab currently cannot run canine inhibin.**

### AMH: EQUINE

*Mare:* Normal ranges for a non-pregnant mare 0.1 – 6.9 ng/mL

Marginally elevated 7.0 – 7.9 ng/mL

Levels consistent with granulosa cell tumor > 8.0 ng/mL

*Cryptorchid levels* > 0.15 ng/mL

**AMH Feline/Canine: Positive, negative or inconclusive only. No number or range provided.**



## UC Davis Clinical Endocrinology Laboratory

3230 VM3B, 1089 Veterinary Medicine Dr., Davis, CA 95616-5270

Phone: 530-752-0298 FAX: 530-752-6318

<https://www.vetmed.ucdavis.edu/labs/endo-lab>

[endlab@ucdavis.edu](mailto:endlab@ucdavis.edu)

<input type="checkbox"/> <b>Equine Pregnancy Panel (\$40.00)</b> Progesterone / Estrone Sulfate 1 ml serum	<input type="checkbox"/> <b>Cryptorchid Panel (\$75.00)</b> Testosterone / AMH 2 ml serum	<b>Equine GCT Panel I</b> <input type="checkbox"/> <b>Inhibin / Testo / Prog (\$90.00)</b> 3 ml serum
<input type="checkbox"/> <b>Progesterone (\$22.00)</b> 1 ml serum	<input type="checkbox"/> <b>Testosterone (\$29.00)</b> 2 ml serum	<b>Equine GCT Panel II</b> <input type="checkbox"/> <b>AMH / Inhibin / Testo (\$130.00)</b> 3 ml serum, most sensitive panel
<input type="checkbox"/> <b>Equine/Caprine Estrone Sulfate (\$25.00)</b> 1 ml serum	<input type="checkbox"/> <b>Equine Inhibin (\$57.00)</b> 1 ml serum	<input type="checkbox"/> <b>Equine AMH / Inhibin (\$100.00)</b> 2 ml serum
<input type="checkbox"/> <b>AMH (\$60.00) Feline/Canine</b> 0.2 ml serum	<input type="checkbox"/> <b>AMH Feline/Canine /Progesterone Panel (\$75.00)</b> 0.5 ml serum	<input type="checkbox"/> <b>Equine AMH (\$60.00)</b> 1 ml serum
<input type="checkbox"/> <b>DHP/Progesterone by Mass Spec (\$100.00)</b> 2 mL serum *Mare must be over 120 days pregnant		<input type="checkbox"/> <b>Repeat Panel by Mass Spec</b> <b>(No charge, subject to lab approval)</b> 2 mL serum

Please review our sample handling requirements.

### Client Information (PLEASE print clearly)

Clinic/Hospital Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Contact: Dr. \_\_\_\_\_ Phone: \_\_\_\_\_

### Patient Information:

Owner: \_\_\_\_\_ Animal name: \_\_\_\_\_

Animal/Reference #: \_\_\_\_\_ Species: \_\_\_\_\_  Mini-equine

Sex:  Male  Female  Intact  Castrated  Spayed Age: \_\_\_\_\_

Date collected: \_\_\_\_\_ Last breeding date: \_\_\_\_\_

History: \_\_\_\_\_

### Receive Results:

Fax: \_\_\_\_\_  Email: \_\_\_\_\_

### Payment Information:

Pay online using the link on our website: <https://www.vetmed.ucdavis.edu/labs/endo-lab>

Please check if paid online, or put credit card information below.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

MasterCard  Visa  American Express

Credit Card # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Expiration Date: \_\_\_\_\_