

SUPPLIES:

Multiple Tube Mailer
(Includes prepaid U.S. Mail
Postage OR prepaid UPS)

U.S. Mail

- 6 (99120) 12 (99121) 24 (99122)

UPS

- 6 (99020) 12 (99021) 24 (99022)

Insulated UPS Mailers 1 (99220) 3 (99221) 6 (99222)
(Accommodates ice + multiple samples + includes prepaid return)

Preprinted Endo Submittal Forms (99030 - No Charge)

Listing of Endo Normals (99028 - No Charge)



MICHIGAN STATE UNIVERSITY
**VETERINARY DIAGNOSTIC
LABORATORY**

Contact Lab: 517.353.1683 M-F: 7:30am-5:30pm EST

F.ADM.7.14

Issued: 07/10/2017

Other FORMS available – see animalhealth.msu.edu

MSU VDL Use Only:

Initials _____ Received _____
Check No. _____ Amount _____
Condition _____ Temp _____

MSU VDL Use Only: ___USS ___SST ___S ___L ___P ___U Other: _____ Ice No Ice

MSU VDL Account # _____ Submitting Veterinarian _____
Clinic Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Fax _____ Email _____

Owner Name _____
Last _____ First _____
Animal Name/ID _____ MRN _____
 Canine Feline Equine Other _____
Breed _____
Age ___ Day Wk Mo Yr; Weight ___ kg lb
Sex: M F MC FS Unknown
Date Samples Taken _____
Date Samples Sent _____
Samples Sent: serum plasma urine
Draw Time: ___ am pm; ___ am pm; ___ am pm

Identify Major Lesions/Signs (please ✓) **None**

<input type="checkbox"/> Abrasions	<input type="checkbox"/> Hyperpigmentation	<input type="checkbox"/> Pruritus
<input type="checkbox"/> Acanthosis	<input type="checkbox"/> Hypopigmentation	<input type="checkbox"/> Pyoderma
<input type="checkbox"/> Alopecia	<input type="checkbox"/> Infertility	<input type="checkbox"/> Scales
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Lethargy	<input type="checkbox"/> Seborrhea
<input type="checkbox"/> Calcinosis cutis	<input type="checkbox"/> Lichenification	<input type="checkbox"/> Seizures
<input type="checkbox"/> Cool Skin	<input type="checkbox"/> Obesity	<input type="checkbox"/> Tachycardia
<input type="checkbox"/> Crusts	<input type="checkbox"/> Otitis	<input type="checkbox"/> Ulceration
<input type="checkbox"/> Dermatitis moist	<input type="checkbox"/> Papule/plaque	<input type="checkbox"/> Vesicles
<input type="checkbox"/> Dermatitis erythema	<input type="checkbox"/> Polydipsia	<input type="checkbox"/> Vomiting
<input type="checkbox"/> Diarrhea	<input type="checkbox"/> Polyuria	<input type="checkbox"/> Weight loss
<input type="checkbox"/> Hyperkeratosis	<input type="checkbox"/> Polyphagia	<input type="checkbox"/> Wheals

Location of Lesions/Signs (please ✓)

<input type="checkbox"/> Eyes	<input type="checkbox"/> Rump
<input type="checkbox"/> Muzzle	<input type="checkbox"/> Shoulders
<input type="checkbox"/> Head	<input type="checkbox"/> Genitals
<input type="checkbox"/> Neck	<input type="checkbox"/> Tail
<input type="checkbox"/> Ears	<input type="checkbox"/> Forefeet
<input type="checkbox"/> Chest	<input type="checkbox"/> Hindfeet
<input type="checkbox"/> Axilla	<input type="checkbox"/> Forelimbs
<input type="checkbox"/> Abdomen	<input type="checkbox"/> Hindlimbs
<input type="checkbox"/> Back	<input type="checkbox"/> Generalized lesions
<input type="checkbox"/> Sides	<input type="checkbox"/> Bilateral symmetry
<input type="checkbox"/> Groin	

THERAPIES (List all current and recent)

NONE

Thyroid _____
_____ mg; frequency _____; _____ hrs post pill

Glucocorticoids _____
 Oral _____ mg; frequency _____
 Eye Ear Topical; frequency _____
Last Administered: _____

Pituitary/Adrenal _____
_____ mg; frequency _____
Last Administered _____

Anticonvulsant _____
_____ mg q; frequency _____; _____ hrs post pill

Other _____

History, Other Clinical Signs, Tentative Diagnosis:

Previously tested? Yes No MSU VDL encounter # if known _____

SPECIMEN REQUIREMENT KEY P EDTA PLASMA S SERUM U URINE

Interpretation of Results by a Veterinary Endocrinologist (add'l charge applies) 20020
NOTE: Tests marked with asterisk (*) include interpretation.

THYROID FUNCTION (S)

Standard Premium (FT4 by dialysis)

Canine

Thyroid Diagnostic Profile 20010 20011
(TT4, TT3, FT4, FT3, T4AA, T3AA, TSH, TgAA)

Therapeutic Monitoring Profile 20012 20013
(TT4, TT3, FT4, FT3, TSH)

OFA Thyroid Registry 20014
(Contact laboratory for required application or visit website)

Feline

Thyroid Profile 20015 20016
(TT4, TT3, FT4, FT3)

Thyroid Profile + TSH 20012 20013

T3 Suppression Test

Feline Thyroid Profile, pre 20015 20016
Post T3, Specify hrs post-pill ___ 200xx 200xx

Other Species

Thyroid Profile 20015 20016
(TT4, TT3, FT4, FT3)

Stand-Alone Tests

Thyroglobulin Autoantibody (TgAA) (canine) 20022

T4/T3 Autoantibody Index (canine) 20024

Free T4 by Dialysis (all species) 20021

ADRENAL FUNCTION (S or P)

Screening Tests

Urinary Cortisol/Creatinine Ratio (U) 20019

Low-dose Dexamethasone Supp. Test
(canine: 0.01 mg/kg; feline: 0.1 mg/kg; equine: 20 mg/500 kg)

Cortisol, baseline, pre 20017

Cortisol, post Dex 200xx
Specify _____ hr and _____ hr post Dex

ACTH Response Test

Cortisol, baseline, pre 20017

Cortisol, post ACTH 200xx
Specify _____ hr and _____ hr post ACTH

Differentiation Tests

High-dose Dexamethasone Supp. Test
(canine 0.1 mg/kg)

Cortisol, baseline, pre 20017

Cortisol, post Dex 200xx
Specify _____ hr and _____ hr post Dex

Combined Tests

Combined Dex Supp./ACTH Response
(canine 0.1 mg/kg Dex; feline: 0.1 mg/kg)

Cortisol, baseline, pre 20017

Cortisol, post Dex 200xx
Specify _____ hr and _____ hr post Dex

Cortisol, post ACTH 200xx
Specify _____ hr and _____ hr post ACTH

Monitoring Tests

ACTH Stimulation/Response Test

Cortisol, baseline, pre 20017

Cortisol, post ACTH 200xx
Specify _____ hr and _____ hr post ACTH

Specialty Tests

ACTH Stimulation/Response Test

Aldosterone, baseline, pre 20002

Aldosterone, post ACTH 200xx
Specify _____ hr and _____ hr post ACTH

PARATHYROID FUNCTION

Basic Parathyroid Profile (S)* 20033
(Parathyroid hormone (PTH) & ionized calcium)

Malignancy Profile (S & P)* 20030
(PTH, ionized calcium, parathyroid hormone related protein (PTHrP))

Vitamin D Profile (S)* 20035
(PTH, ionized calcium, 25-hydroxyvitamin D)

Parathyroid Hormone Related Protein (P)* 20004

25-Hydroxyvitamin D (S)* 20001

1,25-Dihydroxyvitamin D, Calcitriol (S)* 20524

Ionized Calcium (stand-alone) (S) 20026

PANCREATIC FUNCTION

Serum Insulin and Glucose, baseline fasting (S) 20008

Glucose Tolerance Test (1 g/kg) (S)

Insulin and Glucose, baseline, pre (S) 20008

Insulin and Glucose, post glucose (S) 200xx
□15, □30, □45, □60 min, _____ hr post glucose

Insulin antibodies (S) 20031

GASTRIC FUNCTION

Gastrin, fasting baseline (S)* 20007

Post, specify treatment and times: _____ 20025

PITUITARY FUNCTION

Endogenous (plasma) ACTH (P)* 20006

Post TRH, specify _____ hr and _____ hr post TRH

Insulin-like Growth Factor-1; IGF-1 (S)* 20005

DRUG MONITORING

Phenobarbital (S) 20034

DELIVERY SERVICE:
MSU VDL Endocrinology
4125 Beaumont Road
Lansing, MI 48910 8104

U.S. POSTAL ADDRESS:
MSU VDL Endocrinology
P.O. Box 30076
Lansing, MI 48909 7576

Test	Sample Required	Volume Required	Protocol	Shipping and Handling	Special Instructions/Comments
ACTH Response Test, Cortisol	EDTA plasma or Serum	0.5 mL ea. sample	For Dogs or Cats. Collect baseline sample. If using Cortrosyn, administer 5 ug/kg IV and obtain post sample 1 hr later. If using ACTH gel, administer 2.2 IU/kg IM and collect post sample at 2 hr for dogs, or 1 hr for cats.	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	Separate samples within 30 min of collection. This test is used to diagnose hypoadrenocorticism, hyperadrenocorticism and to monitor trilostane or mitotane therapy. It is also the best adrenal function test for diagnosis of iatrogenic hyperadrenocorticism.
ACTH Response Test, Aldosterone	EDTA plasma or Serum	0.5 mL ea. sample	Follow ACTH Response test protocol.	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	Separate EDTA plasma within 30 min of sampling.
ACTH, Endogenous	EDTA plasma	1.0 mL	Fasting sample. Centrifuge EDTA tube immediately after collection, pipet plasma into a PLASTIC tube, freeze.	Freeze, ship on ice via overnight courier. Must arrive below 60 F.	Endogenous ACTH is used to differentiate adrenal-based from pituitary-based hyperadrenocorticism. Diagnosis of hyperadrenocorticism using a LDDST or ACTH response test should be confirmed prior to eACTH determination.
Calcitriol, 1,25-Dihydroxyvitamin D	Serum	.75 mL	Fasting sample. Allow serum to clot at room temperature for 30-60 min prior to separation. Centrifuge to separate serum.	Refrigerate or freeze, ship on ice via overnight courier.	Avoid exposure to light. Calcitriol is used to: determine serum calcitriol levels, especially in cases of chronic kidney disease (typically there is a calcitriol deficiency in chronic kidney disease); monitor calcitriol therapy; help diagnose rare causes of osteomalacia, such as vitamin D receptor defects.
Combined Dexamethasone Suppression Test /ACTH Response Test	EDTA plasma or Serum	0.5 mL ea. sample	For Dogs or Cats. Collect baseline sample, administer 0.1 mg dex/kg IV. Obtain second sample 2 - 4 hr later. Then follow ACTH Response Test protocol.	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	Separate samples within 30 min of collection. This test is used to screen for hyperadrenocorticism. Some pituitary tumors will suppress normally with this high dose of dexamethasone. Followed by an ACTH response test.
Equine Dexamethasone Suppression Test	EDTA plasma or Serum	0.5 mL ea. sample	For Horses. Collect baseline sample at approx 5pm; administer 20 mg dex/500 kg BW IM; Collect post samples 15 and 19 hrs later.	Refrigerate or freeze ship on ice. Should arrive either overnight or second-day.	Separate samples within 30 min of collection. This is the test of choice for diagnosis of equine hyperadrenocorticism.
Gastrin	Serum	0.5 mL	Fasting sample.	Refrigerate or freeze, ship on ice during hot months.	May be falsely elevated if the animal is receiving cimetidine.
High Dose Dexamethasone Suppression Test (HDDST)	EDTA plasma or Serum	0.5 mL ea. sample	For Dogs. Collect baseline sample, administer 0.1 mg dex/kg IV or IM. Obtain samples at 4 hrs and at 8 hrs post dexamethasone (total of 3 samples).	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	Separate samples within 30 min of collection. This test is used to differentiate pituitary-based hyperadrenocorticism.
IGF-1	Serum	0.5 mL	Fasting not necessary.	Refrigerate or freeze, ship on ice.	Provides indirect assessment of growth hormone production.
Insulin/Glucose Ratio	Serum	1.0 mL	Fasting sample. For glucose tolerance testing, obtain fasting sample, infuse glucose 1.0 g/kg IV over 30 sec, obtain post samples at 15, 30, 45, and 60 min.	Refrigerate or freeze, ship on ice.	Separate serum within 30 min of collection. Used to diagnose insulinoma. Also used to document insulin resistance especially in horses.
Low Dose Dexamethasone Suppression Test (LDDST)	EDTA plasma or Serum	0.5 mL ea. sample	For Dogs. Collect baseline sample, administer 0.01 mg dex/kg IM. Obtain samples at 4-6 hrs, and at 8 hr post dex (total of 3 samples).	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	Separate samples within 30 min of collection. This test is used to diagnose hyperadrenocorticism and may differentiate pituitary-based hyperadrenocorticism. May be followed by an ACTH response test.
Malignancy Profile (PTH, ionized calcium, and PTHrP)	Serum AND EDTA Plasma	1.0 mL Serum AND 0.5 mL Plasma	Fasting samples. Allow serum to clot at room temp for 30 to 60 min prior to separation. Centrifuge EDTA tube and pipet plasma into a plain tube (label as plasma).	Freeze, ship on ice via overnight courier. Must arrive below 60 F.	Avoid lipemia and hemolysis. DO NOT SEND an EDTA tube without separating the plasma.
OFA Canine Thyroid Registry	Serum	2.0 mL	Fasting sample.	Refrigerate or freeze, ship on ice via overnight courier. Must arrive below 60 F.	Avoid hemolysis and lipemia. Owner must submit a separate check made out to OFA. Completed OFA application form must be enclosed. Animal must not have received thyroid therapy for 3 months prior. Results will not be available by telephone.
Parathyroid Profile, Basic (PTH and ionized calcium)	Serum (required for ionized calcium)	1.0 mL	Fasting sample. Allow serum to clot at room temp for 30 to 60 min prior to separation.	Refrigerate or freeze, ship on ice via overnight courier. Must arrive below 60 F.	Avoid lipemia and hemolysis.
Parathyroid hormone related protein (PTHrP)	EDTA Plasma	0.5 mL	Fasting sample. Centrifuge EDTA tube and pipet plasma into a plain tube (label as plasma).	Freeze, ship on ice via overnight courier. Must arrive below 60 F.	Avoid lipemia and hemolysis. DO NOT SEND an EDTA tube without separating the plasma.
Phenobarbital	Serum	0.5 mL	Take sample 2 or more hours post phenobarbital.	No special requirements.	Phenobarbital concentrations are slightly lower in samples in serum separator tubes. Steady state concentrations are reached after 2-3 wks of treatment.
Progesterone	Serum	0.5 mL	For ovarian remnant determination: Dog: sample 7-14 days after signs of estrus end; Cats: Sample 7-14 days after induction of ovulation by manual stimulation or giving HCG 500 IU/kg IM.	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	Samples submitted for same-day progesterone assay must be received by 12:30 pm to have result reported on the same day.
T3 Suppression Test, Feline - Standard or Premium	Serum	1.5 mL (standard); 2.0 mL (premium)	Collect baseline sample. Give 25 ug T3 (Cytomel) at 8 hr intervals for 6 or 7 treatments. Collect post sample 2-4 hrs after last treatment.	If standard, may be shipped via regular mail. If premium, refrigerate or freeze and ship on ice to arrive overnight or second-day.	Baseline serum sample may be kept refrigerated or frozen so that both samples may be shipped together.
Testosterone	Serum	1.5 mL	For Dog or Cat: baseline sample usually sufficient. Horse- baseline; 30 min, 1 and 2 hr post HCG injection (6000-12000 IU/horse IV or IM) Dog GnRH Response test: baseline, 1 & 2 hr post GnRH 0.22 ug/kg IV	Refrigerate or freeze, ship on ice.	A baseline sample is often adequate in dogs and cats. An HCG response test is often needed in horses.
Thyroid Profile, Canine (Diagnostic or Monitoring)- Standard or Premium	Serum	2.0 mL	For monitoring thyroid supplementation, collect sample 3-8 hr post pill & specify type of therapy, dose, & time post pill.	If standard, may be shipped via regular mail. If premium, refrigerate or freeze and ship on ice to arrive overnight or second-day.	Avoid hemolysis and lipemia.
Thyroid Profile, Feline or Other – Standard or Premium	Serum	1.5 mL (standard); 2.0 mL (premium)	Timing of sample not important.	If standard, may be shipped via regular mail. If premium, refrigerate or freeze and ship on ice to arrive overnight or second-day.	Avoid hemolysis and lipemia.
Urinary Cortisol: Creatinine Ratio	Urine	2 mL	Have owner collect urine at home under non-stressful conditions.	Refrigerate or freeze, ship on ice. Should arrive either overnight or second-day.	The urinary cortisol:creatinine ratio is a screening test for hyperadrenocorticism. It is also positive with stress, and in many nonadrenal illnesses.
Vitamin D, 25-hydroxy	Serum	0.5 mL	Fasting sample. Allow serum to clot at room temp for 30 to 60 min prior to separation.	Refrigerate or freeze, ship on ice via overnight courier.	Avoid exposure to light. Measured if inadequate or excessive vitamin D ingestion is suspected.
Vitamin D Profile (PTH, ionized calcium, and 25-hydroxyvitamin D)	Serum	1.5 mL	Fasting sample. Allow serum to clot at room temp for 30 to 60 min prior to separation.	Refrigerate or freeze, ship on ice via overnight courier.	Avoid lipemia and hemolysis.

All samples and specimens submitted become the property of MSU VDL and will not be returned unless specific arrangements are made and approved by MSU VDL management.