



**UC DAVIS**

**VETERINARY MEDICINE**

California Animal Health & Food Safety Laboratory System

105 W. Central Avenue  
San Bernardino, CA 92408-2113  
(909) 383-4287  
[www.cahfs.vetmed.ucdavis.edu](http://www.cahfs.vetmed.ucdavis.edu)

CAHFS Accession #: S2301145

**FINAL REPORT**

Ref.#: 38 samples (goat)

**Coordinator:** Francisco Uzal, DVM, MSc, PhD,  
Dipl. ACVP

**E-Signed and Authorized by:** Uzal, Francisco A.  
on 2/14/2023 3:57:54PM

**Collection Site:**

Amores, Lazaro/Sandra

Norco CA 92860  
Riverside County, Prem ID: 00PV2KA

**Email To:**  
Amores, Lazaro/Sandra  
sandraamores72@hotmail.com

**This report supersedes all previous reports for this case**

**Specimens Received:** 34 Serum; 4 Serum - RBTT;

**Date Collected:** 02/06/2023 **Date Received:** 02/06/2023

**Comments:** Client paid \$1194.50 via cc 2/6/23 - mp

**Case Contacts**

Submitter Amores, Lazaro/Sandra 813-505-9474 375 5Th Street Norco CA 92860

**Specimen Details**

Animal/Source	ID Type	Taxonomy	Gender	Age
1	CAHFS Internal ID	Nigerian Dwarf goat	Mixed	Adult

**Laboratory Findings/Diagnosis**

Caprine samples for annual testing; possible mineral imbalance

Negative CAE, C. pseudotuberculosis and Johnes disease serology (see Immunology section of this report for details)

Below normal copper concentration, 3/4

Below normal iron concentration, 2/4

Above normal potassium concentration, 4/4

(Please see Toxicology section of this report for details)

**Clinical History**

Annual goat herd disease testing for CAE, CL, Johnes (34 samples).

Mineral panels for 4 goats that have dry skin and hair loss around the eyes (4 samples). Q fever to all 34 samples.

Disease or condition suspected: Mineral imbalance on 4 goats.

**Immunology**

**Test Specific Comments**

**Caprine arthritis encephalitis / ovine progressive pneumonia antibody cELISA**

- \* Results in the suspect range may be caused by early-stage infection, or may be temporary cross-reaction due to recent vaccination, stress, or other illness. Re-testing the animal in 3-4 weeks is recommended. Most suspect results due to temporary cross-reaction revert to negative in this time period.

**Corynebacterium pseudotuberculosis antibody - SHI**

- \* C. pseudotuberculosis SHI titers less than 1:8 are not considered significant. Titers may indicate active

infection or historic exposure.

In small ruminants, *C. pseudotuberculosis* titers of 1:8 occur with similar frequency in animals with and without active infection and may represent early infection or historic exposure. Titers 1:16-1:32 occur 4 times more often in animals with active infection (vs. those without infection), and titers 1:64->=1:256 occur 8.5 times more often in animals with active infection (vs. those without).

In horses, titers 1:8-1:128 are typically seen in animals with historic infection with or exposure to *C. pseudotuberculosis*, with external infection, or in the early stages of infection. Titers >=1:256 may be seen with active infection (external, internal) or exposure to the organism. In the absence of external abscesses, and with other indicators of chronic inflammation (such as high WBC, high globulin, others), titers >1:512 are associated with internal abscess formation.

**M. paratuberculosis (Johne's Disease) Antibody ELISA**

\* In cattle, *Mycobacterium paratuberculosis* (Johne's disease) ELISA test results are interpreted as negative if less than or equal to 0.450, suspect if greater than 0.450 but less than 0.550, and positive if greater than or equal to 0.550. At the 0.550 cutoff, test sensitivity and specificity are estimated at 68% and 99%, respectively, in cattle.

In sheep and goats, *Mycobacterium paratuberculosis* (Johne's disease) ELISA test results are interpreted as negative if less than or equal to 0.100, suspect if greater than 0.100 but less than 0.300, and positive if greater than or equal to 0.300. At the 0.300 cutoff, test sensitivity and specificity are estimated at 51% and 95%, respectively, in small ruminants.

**Caprine arthritis encephalitis / ovine progressive pneumonia antibody cELISA**

Animal/Source	Specimen	Specimen Type	Results	
1	(1) Kenzi	Serum	1.8	Neg
1	(2) Valentine	Serum	10.2	Neg
1	(3) Snickers	Serum	-0.5	Neg
1	(4) Tootsie	Serum	0.3	Neg
1	(5) Sweet Tea	Serum	3.7	Neg
1	(6) Abigail	Serum	2.6	Neg
1	(7) Godiva	Serum	2.2	Neg
1	(8) Love	Serum	3.4	Neg
1	(9) Lexi	Serum	2.4	Neg
1	(10) Wildflower	Serum	1.4	Neg
1	(11) Iris	Serum	3.7	Neg
1	(12) Raven	Serum	7.3	Neg
1	(13) Maple	Serum	10.5	Neg
1	(14) Tilly	Serum	3.8	Neg
1	(15) Ivy	Serum	4.5	Neg
1	(16) Moonpie	Serum	7.1	Neg
1	(17) Diamond	Serum	6.7	Neg
1	(18) Mazie	Serum	6.1	Neg
1	(19) Winnie	Serum	4.6	Neg
1	(20) Harmony	Serum	4.6	Neg
1	(21) Codi	Serum	2.5	Neg
1	(22) Charm	Serum	5.3	Neg
1	(23) Heaven	Serum	3.5	Neg
1	(24) Fancy	Serum	6.1	Neg
1	(25) Goldie	Serum	4.2	Neg

1	(26) Esme	Serum	3.1	Neg
1	(27) Easter	Serum	8.5	Neg
1	(28) Moana	Serum	7.6	Neg
1	(29) Mellow	Serum	2.7	Neg
1	(30) Zazerac	Serum	5.3	Neg
1	(31) Milo	Serum	6.3	Neg
1	(32) August	Serum	3.5	Neg
1	(33) Kealoha	Serum	6.5	Neg
1	(34) Dream	Serum	6.4	Neg

**Corynebacterium pseudotuberculosis antibody - SHI**

Animal/Source	Specimen	Specimen Type	Results
1	(1) Kenzi	Serum	Neg @1:8
1	(2) Valentine	Serum	Neg @1:8
1	(3) Snickers	Serum	Neg @1:8
1	(4) Tootsie	Serum	Neg @1:8
1	(5) Sweet Tea	Serum	Neg @1:8
1	(6) Abigail	Serum	Neg @1:8
1	(7) Godiva	Serum	Neg @1:8
1	(8) Love	Serum	Neg @1:8
1	(9) Lexi	Serum	Neg @1:8
1	(10) Wildflower	Serum	Neg @1:8
1	(11) Iris	Serum	Neg @1:8
1	(12) Raven	Serum	Neg @1:8
1	(13) Maple	Serum	Neg @1:8
1	(14) Tilly	Serum	Neg @1:8
1	(15) Ivy	Serum	Neg @1:8
1	(16) Moonpie	Serum	Neg @1:8
1	(17) Diamond	Serum	Neg @1:8
1	(18) Mazie	Serum	Neg @1:8
1	(19) Winnie	Serum	Neg @1:8
1	(20) Harmony	Serum	Neg @1:8
1	(21) Codi	Serum	Neg @1:8
1	(22) Charm	Serum	Neg @1:8
1	(23) Heaven	Serum	Neg @1:8
1	(24) Fancy	Serum	Neg @1:8
1	(25) Goldie	Serum	Neg @1:8
1	(26) Esme	Serum	Neg @1:8
1	(27) Easter	Serum	Neg @1:8
1	(28) Moana	Serum	Neg @1:8
1	(29) Mellow	Serum	Neg @1:8

1	(30) Zazerac	Serum	Neg @1:8
1	(31) Milo	Serum	Neg @1:8
1	(32) August	Serum	Neg @1:8
1	(33) Kealoha	Serum	Neg @1:8
1	(34) Dream	Serum	Neg @1:8

**Coxiella burnetii (Q Fever) antibody ELISA**

Animal/Source	Specimen	Specimen Type	Results
1	(1) Kenzi	Serum	Negative
1	(2) Valentine	Serum	Negative
1	(3) Snickers	Serum	Negative
1	(4) Tootsie	Serum	Negative
1	(5) Sweet Tea	Serum	Negative
1	(6) Abigail	Serum	Negative
1	(7) Godiva	Serum	Negative
1	(8) Love	Serum	Negative
1	(9) Lexi	Serum	Negative
1	(10) Wildflower	Serum	Negative
1	(11) Iris	Serum	Negative
1	(12) Raven	Serum	Negative
1	(13) Maple	Serum	Negative
1	(14) Tilly	Serum	Negative
1	(15) Ivy	Serum	Negative
1	(16) Moonpie	Serum	Negative
1	(17) Diamond	Serum	Negative
1	(18) Mazie	Serum	Negative
1	(19) Winnie	Serum	Negative
1	(20) Harmony	Serum	Negative
1	(21) Codi	Serum	Negative
1	(22) Charm	Serum	Negative
1	(23) Heaven	Serum	Negative
1	(24) Fancy	Serum	Negative
1	(25) Goldie	Serum	Negative
1	(26) Esme	Serum	Negative
1	(27) Easter	Serum	Negative
1	(28) Moana	Serum	Negative
1	(29) Mellow	Serum	Negative
1	(30) Zazerac	Serum	Negative
1	(31) Milo	Serum	Negative
1	(32) August	Serum	Negative
1	(33) Kealoha	Serum	Negative

Animal/Source	Specimen	Specimen Type	Results
1	(34) Dream	Serum	Negative
<b>M. paratuberculosis (Johnes Disease) Antibody ELISA</b>			
1	(1) Kenzi	Serum	Negative
1	(2) Valentine	Serum	Negative
1	(3) Snickers	Serum	Negative
1	(4) Tootsie	Serum	Negative
1	(5) Sweet Tea	Serum	Negative
1	(6) Abigail	Serum	Negative
1	(7) Godiva	Serum	Negative
1	(8) Love	Serum	Negative
1	(9) Lexi	Serum	Negative
1	(10) Wildflower	Serum	Negative
1	(11) Iris	Serum	Negative
1	(12) Raven	Serum	Negative
1	(13) Maple	Serum	Negative
1	(14) Tilly	Serum	Negative
1	(15) Ivy	Serum	Negative
1	(16) Moonpie	Serum	Negative
1	(17) Diamond	Serum	Negative
1	(18) Mazie	Serum	Negative
1	(19) Winnie	Serum	Negative
1	(20) Harmony	Serum	Negative
1	(21) Codi	Serum	Negative
1	(22) Charm	Serum	Negative
1	(23) Heaven	Serum	Negative
1	(24) Fancy	Serum	Negative
1	(25) Goldie	Serum	Negative
1	(26) Esme	Serum	Negative
1	(27) Easter	Serum	Negative
1	(28) Moana	Serum	Negative
1	(29) Mellow	Serum	Negative
1	(30) Zazerac	Serum	Negative
1	(31) Milo	Serum	Negative
1	(32) August	Serum	Negative
1	(33) Kealoha	Serum	Negative
1	(34) Dream	Serum	Negative

**Toxicology**

Reporting Limit (Rep. Limit): The lowest routinely quantified concentration of an analyte in a sample. The analyte may be detected, but not quantified, at concentrations below the reporting limit. Sample volumes less than requested might result in reporting limits that are higher than those listed.

The serum copper concentrations trended below the provided expected range in 3 of the 4 analyzed samples. Copper deficiency can contribute to illthrift, poor production, decreased resistance to other diseases, diarrhea, ataxia in neonates, and at extremely low levels, death may occur.

The serum iron concentrations were also below the expected range for this species in 2 of the analyzed samples. Note that we often see transient drops in serum iron for a period of time following parturition.

The serum potassium concentrations were above the expected range in all 4 analyzed samples. Elevated serum potassium concentrations are most often due to either a degree of sample hemolysis (moderate elevations) or the use of a potassium-containing sample anticoagulant (large elevations).

The other detected serum mineral results are within acceptable or non-diagnostic ranges for this species.

The provided "normal" mineral ranges can be used to assist with interpretation of the results contained in this report. The provided ranges are only guidelines (generally taken from Mineral Levels in Animal Health, 2nd ed. by Robert Puls) and the results need to be interpreted in conjunction with management (e.g., feed program), animal (e.g., age, production status), and clinical information, and in some cases, postmortem findings. Herd evaluations should be based on analysis from an adequate number of animals.

**TRACE ELEMENT SCREEN**

Animal/Source		Specimen Type		Date Resulted		Sp.		
S2301145-01		Serum - RBTT		13-Feb-2023		CA		
Analyte	Calcium	Copper	Iron	Magnesium	Phosphorus	Potassium	Sodium	Zinc
Ref. Range	80-100	0.8-1.2	1.5-2.5	20-35	42-80	4-6	135-155	0.6-2.7
Rep. Limit	4	0.05	0.1	1	2	0.1	5	0.1
Units	PPM	PPM	PPM	PPM	PPM	mEq/L	mEq/L	PPM
Specimen:	Result:	Result:	Result:	Result:	Result:	Result:	Result:	Result:
Snickers	97	1.3	1.2	29	64	7.9	146	0.66
Sweet Tea	98	0.68	1.8	29	73	10	144	0.83
Iris	94	0.6	1.4	28	76	9.6	143	0.66
Raven	94	0.78	1.5	24	70	9.7	146	1

**We VALUE your opinion of our services!**

To help us improve, please take a moment to tell us your impression of the services you received. Please click the link below to be directed to a short survey

[CAHFS Client Feedback Survey](#)