



**PATIENT NAME:** Baci Akins  
**SPECIMEN ID:** 176445  
**SPECIES:** Canine  
**GENDER:** Female Spayed  
**AGE:** 10.0  
**WEIGHT:** 80.5 lb  
**BREED:** Bernese Mountain Dog

**MRN:** 1100094  
**DRAW DATE:** 3-Jan-23  
**RECEIVED DATE:** 12-Jan-23  
**REPORT DATE:** 12-Jan-23  
**SAMPLE TYPE:** Frozen Serum

**VETERINARIAN:**  
**FACILITY:**  
**PH:**  
**FAX:**

## Wellness Dashboard

<p><b>Vitamin D</b></p> <p>Insufficient</p> <p><b>47.2</b></p> <p>Sufficiency: 100-150 ng/mL</p>	<p><b>B12</b></p> <p>Low Normal</p> <p><b>278.5</b></p> <p>Normal: 220-1080 pg/mL</p>	<p><b>Magnesium</b></p> <p>Normal</p> <p><b>2.4</b></p> <p>Normal: 1.7-2.9 mg/dL</p>	<p><b>tCa</b></p> <p>Normal</p> <p><b>10.5</b></p> <p>Normal: 8.5 - 12.0 mg/dL</p>
<p><b>PTH<sup>1-84</sup></b></p> <p>Normal: 4 - 38 pg/mL</p>	<p><b>Folate</b></p> <p>Normal</p> <p><b>8.0</b></p> <p>Normal: 4.3 - 21.0 ng/mL</p>		

<p><b>Inflammation (CRP)</b></p> <p>Normal</p> <p><b>3.8</b></p> <p>Optimal: ≤ 2.0 Normal: ≤ 3.9                  Mild Inflammation (m): 4 - 9.9                  Moderate Inflammation (M): 10 - 39.9                  High Inflammation (H): ≥ 40 (mg/L)</p> <p>Patient's inflammatory state is within the reference interval.</p>	<p><b>Previous</b></p> <p></p>	<p><b>Chemistries</b></p> <p>Abnormal</p> <table border="1"> <tr> <td>ALT</td> <td>ALP</td> <td>Total Billi</td> </tr> </table> <p><b>CAR: 1.1</b></p> <p>Patient CRP/Albumin Ratio (CAR) is within normal limits.</p>	ALT	ALP	Total Billi
ALT	ALP	Total Billi			

## Additional Tests

<p><b>Cancer Risk</b></p> <p>Elevated</p> <p><b>5.8</b></p> <p>Very Low Risk: ≤ 2.1                  Low Risk: 2.2 - 5.2                  Elevated Risk: 5.3 - 8.9                  Highly Elevated Risk: ≥ 9.0</p> <p>Patient's CRA score is elevated with a heightened likelihood there may be an occult cancerous process. The patient's degenerative joint disease may be contributing to this elevation. Refer to differential list.</p>	<p><b>Previous</b></p> <p></p>	<p><b>Osteoarthritis (HA)</b></p> <p>Positive</p> <p><b>98.8</b></p> <p>Normal: ≤ 20                  Positive: &gt; 20 (ng/mL)</p> <p>Severe liver disease can elevate hyaluronic acid. Recheck HA when liver dysfunction is resolved.</p>	<p><b>Previous</b></p> <p></p>
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6.3

3211

need consult? email [consult@vdiilab.com](mailto:consult@vdiilab.com)

# Differential List



VDI Lab Services  
4685 Runway St. Ste K Simi Valley, CA 93063  
ph: 805-577-6742 fax: 805-426-8115

PATIENT NAME: Baci Akins

MRN: 1100094

VETERINARIAN:

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FACILITY:

SPECIES: Canine

RECEIVED DATE: 12-Jan-23

GENDER: Female Spayed

REPORT DATE: 12-Jan-23

AGE: 10.0

SAMPLE TYPE: Frozen Serum

WEIGHT: 80.5 lb

BREED: Bernese Mountain Dog

## The following differential list is modified based on:

Outside Ref Interval

Within Ref Interval

Not Performed

Impacts List

### Specialty

Cancer Risk

CRP

HPT

HA

B12

Folate

PTH 1-84

### Chemistries

ALB

ALT

ALP

BUN

Creatinine

Glucose

Total Protein

Globulin

AG Ratio

Calcium

BUN/Creat Ratio

Total Bilirubin

### Other Modifiers

Age

Breed

Medication

CAR Ratio

1.1

The list of possible sources are common inflammatory diseases that correspond to the level of inflammation in this patient. Potential actions below may aid in further differential diagnosis. **BASED UPON CLINICAL PRESENTATION, SOME SOURCES CAN BE IMMEDIATELY EXCLUDED.**

## Possible Source

(in decreasing probability)

Liver disease (non cancer)  
Cancer w/o inflam response  
Corticosteroids/ Meds  
Post-Surgical Wound Healing  
Degenerative Joint Disease  
Artifact - Bilirubin



## Potential Action based on clinical relevance

Actions are organized by least invasive/expensive first

liver function tests, imaging  
review patient history for meds, examine patient  
review patient history  
review patient history  
imaging, synovial fluid analysis, sfLDH  
redraw and retest

Potential Action

code 3211

- 1) Conduct a careful physical examination with the above list in mind. Investigate any abnormal findings.
- 2) Supplement Vitamin B12 levels according to the recommendations on the Vitamin B12 reports.
- 3) Repeat profile testing within 2-3 months.

Comments and recommendations are made in the absence of clinical background on the patient. The list of inflammatory diseases and diagnostic procedures are not exhaustive. For more detailed discussion regarding results, comments, or recommendations, please contact VDI at 805-577-6742.

**Canine Chem 12 Report**



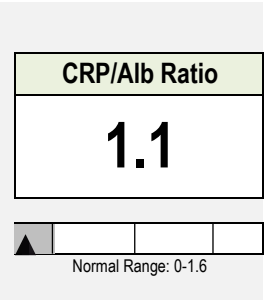
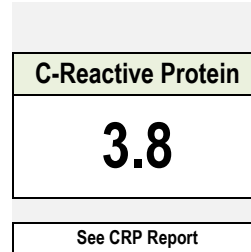
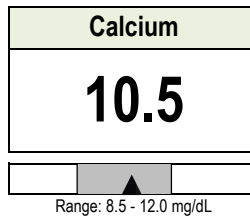
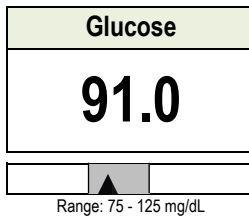
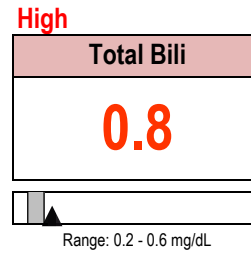
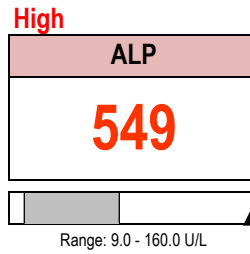
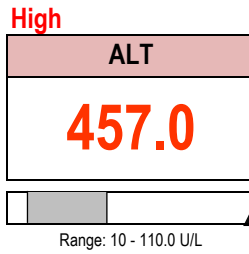
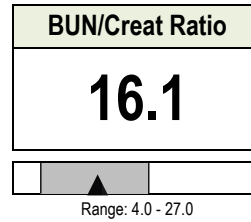
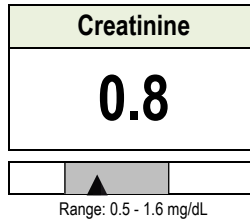
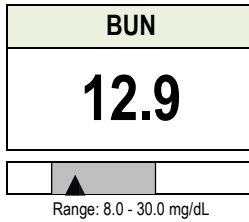
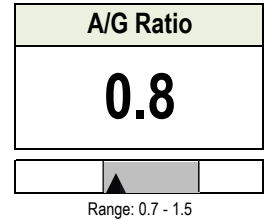
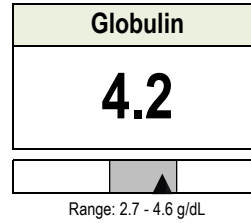
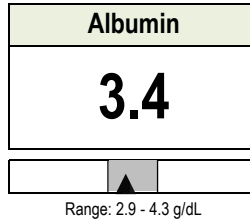
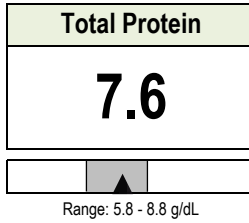
**VDI Lab Services**  
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**Chemistries**





## Hyaluronic Acid Report

**PATIENT NAME:** Baci Akins  
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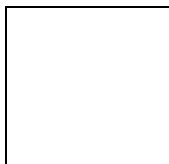
### Hyaluronic Acid (ng/mL)

**Positive**

98.8

Normal: ≤20  
Positive: >20

Change from Previous



### Patient History

ID	Date	Result ng/mL

### Interpretive Comments - need consult? email consult@vdi lab.com

Hyaluronic acid is above the reference interval and is indicative of degenerative joint disease. Joint injury or severe liver disease can elevate hyaluronic acid. Recheck sHA when injury has healed or liver dysfunction is resolved. sHA may be elevated in wounds, ACL/CCL injury, severe liver disease, and in patients being treated with PSGAG (ie, Adequan). Supplementing with oral HA has been shown to improve joint function. Follow recommendations below.

Phases of Degenerative Joint Disease			
Pre-/Early	Mild	Moderate	Severe
HA: Serum HA (sHA) below the positive cutoff. HA is being produced and maintained inside the joints.  CRP: Typically absent, except in IMPA	HA: sHA above positive cutoff. HA is being produced but early degeneration allows some HA to leak into peripheral blood.  CRP: Typically absent, except in IMPA.	HA: Moderate to high levels of sHA increasing with disease severity. HA is being produced but significant degeneration causes HA to leak into peripheral blood. Joint cushioning & lubrication is negatively affected.  CRP: Mild inflammation may be present in moderate OA, IVDD, due to mechanical damage inside the joint. IMPA presents with elevated CRP.	HA: High to declining sHA levels. In severe DJD, chondrocyte cell death limits the production of HA. HA that is produced is leaked into the peripheral blood. Joint cushioning & lubrication is severely affected.  CRP: Moderate to high inflammation may be present in OA, IVDD. Elevated CRP in IMPA.
No clinical signs present, but dog may be predisposed or at high risk of DJD.	Dog may begin showing some stiffness or rigidity. Doesn't interfere with day-to-day activity, but gait may change during exercise.	Dog may be showing noticeable pain, stiffness, lethargy with dog being uncomfortable, crying, or becoming increasingly reluctant to walk around.	Dog is typically reluctant to walk, go to the bathroom, or perform daily activities due to increased pain that has become unbearable.

### Supplementation Guide

Dosing Guidelines - Twice Per Day				
PRODUCT NAME	Active Ingredient	PRODUCT STRENGTH	# of Pumps	mL/Day
<b>Trixsyn® Canine Hyaluronan</b>	Sodium Hyaluronate	<b>13mg/pump</b>	<b>2 pumps, twice daily</b>	<b>N/A</b>
<b>Trixsyn® Canine Performance</b>	Sodium Hyaluronate Astaxanthin	<b>13mg/pump 1mg/pump</b>	<b>2 pumps, twice daily</b>	<b>2 pumps, twice daily</b>
<b>Other</b>	_____			

# Vitamin D Report



VDI Lab Services  
4685 Runway St. Ste K Simi Valley, CA 93063  
ph: 805-577-6742 fax: 805-426-8115

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**MRN:** 1100094

**FACILITY:**

**SPECIES:** Canine

**DRAW DATE:** 3-Jan-23

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**AGE:** 10.0

**REPORT DATE:** 12-Jan-23

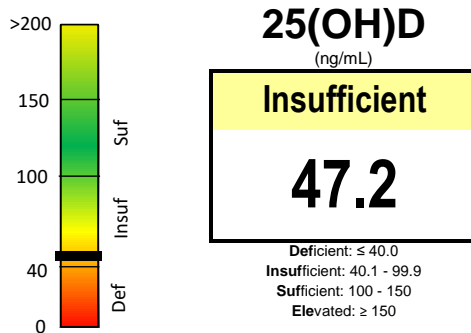
**WEIGHT:** 80.5 lb

**SAMPLE TYPE:** Frozen Serum

**PH:**

**FAX:**

**BREED:** Bernese Mountain Dog



**Dose at time of draw:**

**Not Provided**

**Increase dose by:**

**4500 IU/day**



## New Recommended Dose Range

**Low End Sufficiency**  
(~100 ng/mL)

**High End Sufficiency**  
(~130 ng/mL)

**4500 IU/day**

**7100 IU/day**

For most patients without underlying conditions, or taking corticosteroids

For patients that warrant a higher VitD level and/or those on corticosteroids.

### Patient History

ID	Date	Result ng/mL	Known Dose iu/day

### Interpretive Comments - need consult? email consult@vdlab.com

Your patient is found to be insufficient. Insufficiency increases risk of developing other serious diseases. Current supplementation was not provided, so increase/start patient on D3 supplement per recommendations and retest in 8-10 weeks or 4 months for obese patients.

**If any of the following occur, wait 2 months from the date of change, then retest:**

Major Diet Change

Change in Health Status (eg PLE)

Change of Vitamin D supplement or daily treats

Supplementation is stopped for longer than 4 weeks

Patient is put on Corticosteroids

Patient is put on NSAIDS

### Supplementation Guide

**Total Dose Recommended:**

**4500 IU/day**

**7100 IU/day**

\*Choose only one product for supplementation

PRODUCT NAME	PRODUCT STRENGTH	PRODUCT FORMAT	Low End Dose	High End Dose
<b>RxD3</b> <i>Rx Vitamins</i>	100 IU/ drop	Liquid Drops <i>Applied to food</i>	<input type="checkbox"/> 1.5 mL/day	<input type="checkbox"/> 2.25 mL/day
<b>RxD3 Forte</b> <i>Rx Vitamins</i>	500 IU/ drop	Liquid Drops <i>Applied to food</i>	<input type="checkbox"/> 9 drops/day	<input type="checkbox"/> 14 drops/day

**Retest NO SOONER THAN:**

**March 23, 2023**

# B12 (Cobalamin) Report

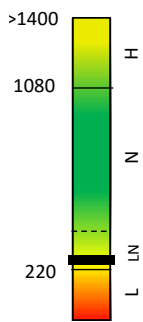


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## Cobalamin (pg/mL)

**Low Normal**  
**278.5**

Low (L): <220  
Low Normal (LN): 220 - 400  
Normal (N): 220 - 1080  
High (H): ≥1080

In unfasted patients, actual B12 values may be lower, which may impact dose recommendation.

**B12 Dose at time of draw:**

**Not Provided**

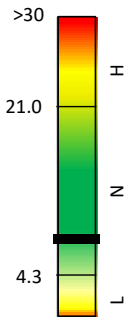
**Increase B12 dose by:**

**499 mcg/day**



## New Recommended B12 Dose

<b>Fasted Sample?</b>	<b>unknown</b>
<b>499 mcg/day</b>	
B12 dosing recommendations are for daily supplementation. Continue indefinitely unless changes in health or diet require modification.	



## Folate (ng/mL)

**Normal**  
**8.0**

Low (L): <4.3  
Normal (N): 4.3 - 21.0  
High (H): > 21.0

### Patient History

ID	Date	B12 pg/mL	Folate ng/mL	Known B12 Dose mcg/day

### Folate vs Cobalamin Plot

Folate	High	SIBO Excess Dietary Folate	Normal	Excess Supplementation
	Low	Low Dietary B12 CP / EPI / IBD / LSA Distal SI Damage	Normal	Excess Supplementation Cholangitis
	Low	Small Intestinal Damage CP / EPI / IBD / LSA	Proximal SI Damage Dysbiosis Antibiotics	Proximal SI Damage Antibiotics / LSA / Cholangitis
		Low		High

**Cobalamin**  
chart assumes unsupplemented patient

need consult? email [consult@vdiilab.com](mailto:consult@vdiilab.com)

### Comments

Patient has low normal B12 and normal Folate. Increase supplement as indicated and retest in 8-10 weeks.

## Total B12 Dose Recommended:

**499 mcg/day**

PRODUCT NAME	PRODUCT STRENGTH	PRODUCT FORMAT	Drops Dose	mL Dose
<b>RxB12</b> <i>Rx Vitamins</i>	<b>250 mcg/mL</b> 6.5 mcg/drop	<b>Liquid Drops</b> <i>Applied to food</i>	<input type="checkbox"/> use mL dose	<input type="checkbox"/> 2 mL/day
<b>RxB12 Forte</b> <i>Rx Vitamins</i>	<b>1000 mcg/mL</b> 33 mcg/drop	<b>Liquid Drops</b> <i>Applied to food</i>	<input type="checkbox"/> use mL dose	<input type="checkbox"/> 0.5 mL/day

\*Choose only one product for supplementation

**Retest NO SOONER THAN: March 23, 2023**

# Magnesium Report

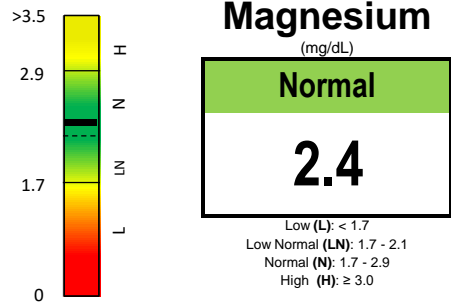


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**SAMPLE TYPE:** Frozen Serum

**VETERINARIAN:**  
**FACILITY:**  
**PH:**  
**FAX:**



**Dose at time of draw:** 0 mg/day  
**Increase Dose By:** 0 mg/day

**New Recommended Dose**

MagRatio	Not Available
<b>0 mg/day</b>	

Magnesium dosing recommendations are for daily supplementation. Continue indefinitely unless changes in health or diet require modification.

**Patient History**

ID	Date	Result m g/dL	Known Dose mg/day

**Interpretive Comments - need consult? email consult@vdi lab.com** 314

Patient has Normal Magnesium levels. Maintain current diet and retest in 1 year unless diet or health changes occur.

## Supplementation Guide

<b>Total Dose Recommended:</b>		<b>0 mg/day</b>		
PRODUCT NAME	PRODUCT STRENGTH	PUMP VOLUME	PRODUCT FORMAT	Dose
Magnesium Lotion for Pets <i>Magnum Solace</i>	50 mg/mL	0.23 mL/pump 11.5 mg/pump	Topical Lotion	<input type="checkbox"/>
Other				<input type="checkbox"/>

Additional Reviewer Comments - need consult? email consult@

**Retest NO SOONER THAN:**