Laboratory Report

Laboratory #: 142694  Call Name: Dash
Order #: 63663  Registered Name: 
Ordered By: Lauren Sikkema  Breed: Australian Cobberdog
Ordered: July 23, 2019  Sex: Male
Received: Aug. 15, 2019  DOB: Dec. 2016
Reported: Aug. 20, 2019  Registration #: -

Results:

<table>
<thead>
<tr>
<th>Disease</th>
<th>Gene</th>
<th>Genotype</th>
<th>Interpretation</th>
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<tbody>
<tr>
<td>Copper Toxicosis (Labrador Retriever Type)</td>
<td>ATP7A</td>
<td>M/Y</td>
<td>Carrier Male</td>
</tr>
<tr>
<td>Copper Toxicosis (Labrador Retriever Type)</td>
<td>ATP7B</td>
<td>WT/WT</td>
<td>Normal (clear)</td>
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</table>

WT, wild type (normal); M, mutant; Y, Y chromosome (male)

Interpretation:

Molecular genetic analysis was performed for two specific mutations reported to be associated with copper toxicity in dogs (one deleterious mutation and one protective mutation). We identified two normal copies of the DNA sequences in the ATP7B gene tested. Thus, this dog is not at an increased risk for Copper Toxicosis (Labrador Retriever Type). In addition, we identified one mutant copy of the DNA sequence for ATP7A. Thus, this dog carries one copy of the protective mutation for Copper Toxicosis (Labrador Retriever Type).

Recommendations:

No mutations were identified in the ATP7B gene. Thus, this dog is not at an increased risk for copper toxicosis. This dog was also tested for a genetic mutation of the ATP7A gene which partially protects against copper toxicosis in dogs that have inherited the ATP7B mutation described above. This dog carries one copy of the ATP7A gene mutation. The ATP7A gene mutation is more effective at decreasing the risk of copper toxicosis in male dogs than females. However, since multiple factors (both genetic and environmental) play a role in causing copper toxicosis, the ATP7A mutation is not completely protective in either sex. Note: The ATP7A mutation is located on the X-chromosome. Since males only have a single X chromosome they can only inherit a single copy of this mutation.

Paw Print Genetics® has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.

Christina J Ramirez, PhD, DVM, DACVP  
Medical Director

Casey R Carl, DVM  
Associate Medical Director

Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. These tests were developed and their performance determined by Paw Print Genetics®. This laboratory has established and verified the tests' accuracy and precision. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory immediately for further evaluation. In the event of a valid dispute of results claim, Paw Print Genetics will do its best to resolve such a claim to the customer's satisfaction. If no resolution is possible after investigation by Paw Print Genetics with the cooperation of the customer, the extent of the customer's sole remedy is a refund of the fee paid. In no event shall Paw Print Genetics be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results.