GenSol
DIAGNOSTICS

CERTIFICATE OF RESULTS

OWNERS NAME: RONNA SMELSER
PET'S NAME:** DELTA

PET'S REGISTRATION #: NOT PROVIDED
PET'S BREED: MINIATURE AUSTRALIAN SHEPHERD
TEST: MULTIDRUG SENSITIVITY (MDR1)
DATE: 10/17/2020

Test Score Explanation Based on Inheritance:

SCORE	RECESSIVE	DOMINANT
A	Clear/Normal	Clear/Normal
B	Carrier/Not Affected	Carrier/Affected
C	At Risk/Affected	At Risk/Affected

TEST SCORE*:

A

SAMPLE ID #:
243889

For detailed result explanation
please visit our website:

www.GenSolDx.com

*All samples submitted to GenSol become the property of GenSol and may be used for internal quality control and/or research purposes. Test results provide information concerning a pet's DNA sequence and are not an indication or guarantee of pet's disease state or condition. Test results alone should not be used to diagnosis, treat or prevent disease.

**GenSol warrants its test results to be accurate for the sample obtained from the above dog. In the event of a valid claim, owner's sole remedy is a refund of the fee paid. IN NO EVENT SHALL GENSOL BE LIABLE FOR INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND. Any claim must be asserted within one year of the report of test results.

Please consult a licensed veterinarian
to discuss the implications of the above test results.

125 North Main Street Unit 1846, Clayton, GA 30525
1-844-369-3686 - info@Gensoldx.com
WWW.GENSOLDX.COM

CERTIFICATE OF RESULTS

OWNERS NAME: RONNA SMELSER
PET'S NAME:** DELTA

PET'S REGISTRATION #: NOT PROVIDED
PET'S BREED: MINIATURE AUSTRALIAN SHEPHERD
TEST: DEGENERATIVE MYELOPATHY (DM)
DATE: 10/17/2020

Test Score Explanation Based on Inheritance:

SCORE	RECESSIVE	DOMINANT
A	Clear/Normal	Clear/Normal
B	Carrier/Not Affected	Carrier/Affected
C	At Risk/Affected	At Risk/Affected

TEST SCORE*:

B

SAMPLE ID #:
243888

For detailed result explanation
please visit our website:

www.GenSolDx.com

*All samples submitted to GenSol become the property of GenSol and may be used for internal quality control and/or research purposes. Test results provide information concerning a pet's DNA sequence and are not an indication or guarantee of pet's disease state or condition. Test results alone should not be used to diagnosis, treat or prevent disease.

**GenSol warrants its test results to be accurate for the sample obtained from the above dog. In the event of a valid claim, owner's sole remedy is a refund of the fee paid. IN NO EVENT SHALL GENSOL BE LIABLE FOR INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND. Any claim must be asserted within one year of the report of test results.

Please consult a licensed veterinarian
to discuss the implications of the above test results.

125 North Main Street Unit 1846, Clayton, GA 30525
1-844-369-3686 - info@Gensoldx.com
WWW.GENSOLDX.COM

Paw Print Genetics
A division of Genetic Veterinary Sciences, Inc.

220 E. Rowan, Suite 220
Spokane, Washington 99207
www.pawprintgenetics.com
(509) 483-5950

Laboratory Report

Laboratory #: 172987
Order #: 76979
Ordered By: Ronna Smelser
Ordered: April 16, 2020
Received: May 18, 2020
Reported: June 1, 2020

Call Name: Whiskey
Registered Name: Clay Creeks Whiskey State of Mind
Breed: Toy Australian Shepherd
Sex: Male
DOB: April 2016
Registration #: -
Microchip #: 990000000776820

Results:

Disease	Gene	Genotype	Interpretation
Collie Eye Anomaly	*NHEJ1*	WT/WT	Normal (clear)
Cone Degeneration	*CNGB3*	WT/WT	Normal (clear)
Degenerative Myelopathy	*SOD1*	WT/WT	Normal (clear)
Hereditary Cataracts (Australian Shepherd Type)	*HSF4*	WT/WT	Normal (clear)
Hyperuricosuria	*SLC2A9*	WT/WT	Normal (clear)
Intestinal Cobalamin Malabsorption (Australian Shepherd Type)	*AMN*	WT/WT	Normal (clear)
Multidrug Resistance 1	*ABCB1*	WT/M	Carrier (At-Risk)
Multifocal Retinopathy 1	*BEST1*	WT/WT	Normal (clear)
Neuronal Ceroid Lipofuscinosis 6	*CLN6*	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	*PRCD*	WT/WT	Normal (clear)

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

Interpretation:

Molecular genetic analysis was performed for 10 specific mutations reported to be associated with disease in dogs. We identified two normal copies of the DNA sequences in nine of the mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these nine mutations. However, we identified one normal copy and one mutant copy of the DNA sequences for *ABCB1*. Thus, this dog is a carrier of (and may be at risk for) Multidrug Resistance 1.

Recommendations:

Multidrug Resistance 1 is inherited in an autosomal incomplete dominant manner in dogs. Based on this, and the fact that this dog showed a mutation in one copy of the *ABCB1* gene, this dog is a carrier of Multidrug Resistance 1 and at a low risk of developing neurological disease when given certain medications. Dogs affected with this disease lack the ability to remove certain drugs and toxins from the central nervous system putting them at risk for developing neurologic symptoms that could range from tremors, excess salivation, anorexia, and blindness to coma and even death. Though adverse reactions to certain drugs are most commonly seen in dogs having two copies of the mutated gene, carrier dogs can also experience drug sensitivities and dosages need to be adjusted accordingly. Thus, dogs that have one or two mutant copies of the gene are considered at risk for adverse drug reactions. Your veterinarian should be notified that this dog is a carrier for Multidrug Resistance 1 prior to administration of any medications. When carriers of this mutation are bred with another dog that also is a carrier

Paw Print Genetics
A division of Genetic Veterinary Sciences, Inc.

220 E. Rowan, Suite 220
Spokane, Washington 99207
www.pawprintgenetics.com
(509) 483-5950

Laboratory Report

Laboratory #: 172989
Order #: 76979
Ordered By: Ronna Smelser
Ordered: April 16, 2020
Received: May 18, 2020
Reported: June 1, 2020

Call Name: Tango
Registered Name: Longs Whiskey Tango Foxtrot @ Clay Creek
Breed: Miniature Australian Shepherd
Sex: Female
DOB: Sept. 2018
Registration #: -
Microchip #: 990000002962413

Results:

Disease	Gene	Genotype	Interpretation
Collie Eye Anomaly	*NHEJ1*	WT/WT	Normal (clear)
Cone Degeneration	*CNGB3*	WT/WT	Normal (clear)
Degenerative Myelopathy	*SOD1*	WT/M	Carrier
Hereditary Cataracts (Australian Shepherd Type)	*HSF4*	WT/WT	Normal (clear)
Hyperuricosuria	*SLC2A9*	WT/WT	Normal (clear)
Intestinal Cobalamin Malabsorption (Australian Shepherd Type)	*AMN*	WT/WT	Normal (clear)
Multidrug Resistance 1	*ABCB1*	WT/M	Carrier (At-Risk)
Multifocal Retinopathy 1	*BEST1*	WT/WT	Normal (clear)
Neuronal Ceroid Lipofuscinosis 6	*CLN6*	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	*PRCD*	WT/WT	Normal (clear)

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

Interpretation:

Molecular genetic analysis was performed for 10 specific mutations reported to be associated with disease in dogs. We identified two normal copies of the DNA sequences in eight of the mutations tested. Thus, this dog is not at an increased risk for the diseases associated with these eight mutations. However, we identified one normal copy and one mutant copy of the DNA sequences for *SOD1*. Thus, this dog is a carrier of Degenerative Myelopathy. In addition, we identified one normal copy and one mutant copy of the DNA sequences for *ABCB1*. Thus, this dog is a carrier of (and may be at risk for) Multidrug Resistance 1.

Recommendations:

Degenerative Myelopathy is inherited in an autosomal recessive fashion. Based on this, and the fact that this dog showed a mutation in one copy of the *SOD1* gene, this dog is a carrier of this disease. Although dogs that carry only one copy of this mutation will not be clinically affected, if bred with another carrier, the pairing could produce affected offspring. To avoid producing affected offspring, this dog should be bred with dogs that are normal (WT/WT) for this gene. Dogs related to this dog have an increased risk to be affected by or carry the mutated gene. Additional testing for this mutation is indicated for related dogs.