GENETIC ANALYSIS REPORT

OWNER'S DETAILS

Ashley Edens
PO BOX 509
Graford, TX 416 449

Orivet Genetic Pet Care
Breed Specific Medicine

Add: P.O. Box 110
St Kilda 3182 VIC
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A.B.N. 8 722 516 58 99

ANIMAL'S DETAILS

Registered Name:	Just My Little Marley From Downunder Of So Cal Del	**Registration No:**	ASDM-MO-1100010
Pet Name:	Marley	**Microchip No:**	941000017057241
Breed:	Miniature Australian Shepherd	**Sex:**	Female
Date of Birth / Age:		**Colour:**	

COLLECTION DETAILS

Case Number:	15-089163	**Date of Test:**	03/09/15
Collected By:	Ashley Edens	**Approved Coll. Mthd.:**	

Sample with Lab ID Number 15-089163 was received at Orivet Genetics, DNA was extracted and analysed with the following results reported:

DNA PROFILE The DNA Profile below represents the genetic identification of Just My Little Marley From Downunder Of So Cal Del

SNP01 AG	SNP02 TT	SNP03 GG	SNP04 CC	SNP05 CC	SNP06 CT	SNP07 GG	SNP08 GG	SNP09 AA	SNP10 AA	SNP11
SNP12 GG	SNP13	SNP14 AG	SNP15	SNP16 TT	SNP17 CC	SNP18 GT	SNP19	SNP20	SNP21 CC	SNP22 CG
SNP23 TT	SNP24 AA	SNP25 GG	SNP26	SNP27 AA	SNP28 GG	SNP29 AA	SNP30 GA	SNP31 CC	SNP32 AA	SNP33 GG
SNP34 TC	SNP35 CA	SNP36 GA	SNP37 TT	SNP38 TC	SNP39 TT	SNP40 CC	SNP41 GG	SNP42 CG	SNP43 CC	SNP44 GG
SNP45 CA	SNP46 GG	SNP47 CC	SNP48 CC	SNP49 CA	SNP50 GG	SNP51 GG	SNP52 CC	SNP53 GC	SNP54 CT	SNP55 GT
SNP56 TT	SNP57 CC	SNP58 GT	SNP59 CC	SNP60 TT	SNP61 GG	SNP62 CC	SNP63	SNP64 CG	SNP65 TT	SNP66 TA
SNP67 GA	SNP68 TT	SNP69 TC	SNP70 TT	SNP71 GG	SNP72 GA	SNP73 CT	SNP74 CA	SNP75 CC	SNP76 GG	SNP77 TT
SNP78 CC	SNP79 TT	SNP80 GG	SNP81 GG	SNP82 CT	SNP83 TT	SNP84 CC	SNP85 AA	SNP86 CC	SNP87 GA	SNP88 GA

15-089163

RESULTS REVIEWED AND CONFIRMED BY:

Dr. Noam Pik BVs MDSV

George Sofronidis BSc (Hons)

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DISEASE(S):
COLLIE EYE ANOMALY/CHOROIDAL HYPOPLASIA **(NORMAL BY PARENTAGE HISTORY)**
DEGENERATIVE MYELOPATHY **(NORMAL / CLEAR - NO MUTATION DETECTED)**
CONE DEGENERATION **(NORMAL / CLEAR - NO MUTATION DETECTED)**
CANINE HYPERURICOSURIA **(NORMAL / CLEAR - NO MUTATION DETECTED)**
CANINE MULTIFOCAL RETINOPATHY 1 **(NORMAL / CLEAR - NO MUTATION DETECTED)**
IVERMECTIN SENSITIVITY MDR1 **(NORMAL / CLEAR - NO MUTATION DETECTED)**
PROGRESSIVE ROD CONE DEGENERATION - PRA **(NORMAL BY PARENTAGE HISTORY)**
COBALAMIN MALABSORPTION CUBLIN DEFICIENCY **(NORMAL / CLEAR - NO MUTATION DETECTED)**

TRAIT(S):
NATURAL BOB TAIL (SHORT TAIL PHENOTYPE) **(NORMAL / CLEAR - NO MUTATION DETECTED)**
A-LOCUS AGOUTI **(at/at - TAN POINTS-TAN POINTS MAY BE BRINDLED (SEE K LOCUS))**
B (TYRP1 LOCUS) BROWN/CHOCOLATE **(NORMAL – BB FULL COLOR DOES NOT CARRY BROWN)**
DILUTE MLPH GENE (BLUE/GREY) **(DD - NO COPY OF MLPH-D ALLELE)**
K-LOCUS (DOM BLACK/WILD TYPE) **(k/k - NON SOLID BLACK (COLOUR DETERMINED BY A LOCUS))**
E-LOCUS (EXTENSION - YELLOW/RED/CREAM/APRICOT **(NORMAL EE - DOMINANT BLACK)**
BLACK HAIR FOLLICULAR DYSPLASIA **(NORMAL / CLEAR - NO MUTATION DETECTED)**
BLACK AND TAN/SADDLE COAT **(AFFECTED / POSITIVE - TWO COPIES)**

Please note: The current B-Locus [TYRP1] does not include the stop codon [bs] mutation. This may cause the result shown for some breeds to be incomplete. Dog may be Bb or bb.

PENDING TEST(S): HEREDITARY CATARACT

15-089163

RESULTS REVIEWED AND CONFIRMED BY:

Dr. Noam Pik BVs MDSV George Sofronidis BSc (Hons)

AN OVERVIEW OF GENETIC TESTING - GLOSSARY OF TERMS

The terms below are provided to help clarify certain items on your genetic reports. The genetic results/terms are those as reported by Orivet.

NORMAL/CLEAR - NO MUTATION DETECTED - No presence of the mutation (wild type) is detected. The animal is clear of disease, will not pass on any disease-causing mutation.

CARRIER/ HETEROZYGOUS - ONE COPY DETECTED - One copy of the normal gene (wild type) and affected (mutant) gene is present, will not exhibit disease symptoms or develop the disease. Consideration needs to be taken if breeding this animal- if breeding with another carrier or affected or unknown then it may produce an affected offspring.

AFFECTED HETEROZYGOUS (ONE COPY) - One copy of the normal gene (wild type) and affected (mutant) gene is present, yet due to the dominant mode of inheritance of the disease the animal may show symptoms (affected). Appropriate treatment should be pursued by consulting a veterinarian.

AFFECTED/ POSITIVE - TWO COPIES - Two copies of the disease gene (mutant) are present, the animal may show symptoms (affected) associated with the disease. Appropriate treatment should be pursued by consulting a veterinarian.

NORMAL BY PARENTAGE HISTORY - The sample submitted has had its parentage confirmed- by pedigree or DNA. By definition, this information together with the history submitted for the parents excludes this animal from having this disease. The controls run confirm that the dog is NORMAL for the disease requested.

NO RESULTS AVAILABLE - Insufficient information has been provided to provide a result for this test. Sire and Dam information and/or sample may be required. This result is mostly associated with tests that have a patent/license and therefore certain restrictions apply. Please contact the laboratory to discuss

DNA PROFILE - Also known as a DNA fingerprint is unique for the animal. No animal shares the same DNA profile. An individual's DNA profile is inherited from both parents and can be used for verifying parentage (pedigrees). The nomenclature **CSNP** identifies the single nucleotide polymorphism (SNP) at a particular site on the chromosome with each number representing a different site.

FAIL - The sample submitted has failed to give a conclusive result. Failures are due mainly to quality/quantity of DNA. We strongly advise that another sample be re-collected and submitted. To minimize bacterial contamination you should allow the swab to air dry (stand up) for at least 3 minutes prior to placing them back into the original swab packaging.

PARENTAGE CONFIRMATION - A separate parentage report is generated and emailed for any parentage request. Parentage confirmation report can only be generated if a DNA profile has been carried out for dam, offspring and possible offspring.

PENDING - Result for this test is still being processed. When completed, the result will be emailed. Certain tests are run on different chips which can lead to results being uploaded and completed separately.

INDETERMINABLE - The samples submitted has failed to give a conclusive result, this result may need to be determined via a manual process. If you have submitted a swab sample you may need to recollect and resubmit a blood sample to enable a conclusive result for the test.

APPROVED COLLECTION METHOD (YES) - the sample submitted for testing HAS met the requirements recommended by member bodies for the DNA collection process. The animal has been identified via its microchip number (Positive ID) and collected by a Veterinarian or Approved Collection Agent.

APPROVED COLLECTION METHOD (BLANK) - the sample submitted for testing HAS NOT met the requirements recommended by member bodies for the DNA collection process.

TRAIT - A feature that an animal is born with (genetically determined characteristic). Traits area visual phenotype that range from colour to hair length, also includes certain features such as tail length. If an individual is AFFECTED for a trait then it will show that characteristic eg. AFFECTED for the B (brown) LOCUS or bb will be brown/chocolate.

CLARIFICATION OF GENETIC TESTING The goal of genetic testing is to provide breeders with relevant information to improve breeding practices in the interest of animal health. However, genetic inheritance is no simple process, and may be complicated by several factors. Below is some information to help clarify these factors.

1) Some diseases may demonstrate signs of what geneticists call "genetic heterogenity". This is a term to describe an apparently single condition that may be caused by more than one mutation/and or gene.

2) It is possible that there exists more than one disease that presents in a similar fashion and segregates in a single breed. These conditions- although phenotypically smiliar- may be caused by separate mutations/ and or genes.

3) It is possible that the disease affecting your breed may be what geneticists call an "oligogenic disease". This is a term to describe the existence of additional genes that may modify the action of a dominant gene associated with a disease. These modifier genes may for example give rise to a variable age of onset for a particular condition, or affect the penetrance of a particular mutation such that some animals may never develop the condition.

The range of hereditary diseases continue to increase and we see some of that are relatively benign and others that can cause severe and/or fatal disease. Diagnosis of any disease should be based on pedigree history, clinical signs, his (incidence) of the disease and the specific genetic test for the disease. Penetrance of a disease will always vary not only from breed to breed but within a breed, and will vary with different diseases. Factors that influence penetrance are genetics, nutrition and environment. Although genetic testing should be a priority for breeders we strongly recommend the temperant and phenotype also be considered when breeding.

Orivet Genetic Pet Care aims to frequently update breeders with the latest research from the scientific literature. If breeders have any questions regarding a particular condition, please contact us on (03) 9534 1544 and we will be happy to work with you to answer any relevant questions.