

REFERENCE NO.: 2016 - 10141**OWNER:**SANDRINE BERCIER
ROUTE DES BRUYERES 821
FR-38440 VILLENEUVE-DE-MARC
FRANCE**NAME/LABEL:**MARLEY ISIWUN FREE MANDELA
SPECIES: DOG
BREED: AUSTRALIAN SHEPHERD
SEX: FEMALE
MICROCHIP NO.: 250269604046921
TATOO NO.: NOT PROVIDED
PEDIGREE NO.: NOT PROVIDED

GENETIC REPORT

SAMPLE: BUCCAL SWAB**SAMPLE TAKEN BY:** OWNER**REQUESTED TEST:** HEREDITARY CATARACT (HC)**RESULT:** CLEAR**COMMENT :**

The test examines presence or absence of HSF4 gene mutation (g.85286582delC) described as the cause of primary hereditary cataract (HC) in Australian Shepherd. The disease is characterized by opacity of the crystalline lens that leads to blindness. Tested HSF4 gene defect is inherited as an autosomal dominant trait with incomplete penetrance.

Regarding to the presence of tested mutation animals are classified in three groups:

- Clear (wt/wt) - mutation is not present, normal genotype
- Carrier (mut/wt) - one of two alleles carries a mutation, high probability of clinical manifestation
- Affected (mut/mut) - both alleles carry mutation, disease is clinically manifested

Hereditary cataract in Australian Shepherds has autosomal dominant mode of inheritance with incomplete penetrance. That means it is not developed in every heterozygous animal carrying deleterious mutation. Other genetic or environmental factors cannot be excluded in development of the disease. According to the scientific literature, the probability of developing the disease is 17 times higher in heterozygous animal comparing to clear animal. Carriers pass the mutation to their siblings therefore mating of two carrier animals should be avoided as 25% of puppies will be affected. The test cannot exclude other genetic defects, which may be involved in development of hereditary cataract in Australian Shepherds.

AUTHORIZED SIGNATURE:**EVG**
MOLEKULARNA DIAGNOSTIKA

EVG d.o.o., Taborska ulica 8, SI-2000 Maribor

MARIBOR, 16.09.2016

Results are valid for laboratory analysed samples only. Accuracy of the data about animal identity is the sole responsibility of the customer/owner. Laboratory is not responsible for false results which arise due to inaccurate animal identity data, false sample labels etc. To the extent the law allows, the maximal compensation for potential false result is limited to the invoiced amount. With the test it is not possible to rule out the presence of other genetic changes which might affect the development of the disease. Testing is performed according to the latest scientific knowledge.

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GENETIC REPORT

SAMPLE: BUCCAL SWAB
SAMPLE TAKEN BY: OWNER
REQUESTED TEST: PROGRESSIVE RETINAL ATROPHY (PRA-PRCD)
RESULT: CLEAR

COMMENT :

The test examines presence or absence of PRCD gene mutation (c.5G>A) described as the cause of one form of progressive retinal atrophy (PRA) in several dog breeds. PRA-PRCD is a late onset disease characterized by progressive degeneration of retinal cells. PRCD gene defect is inherited as an autosomal recessive trait.

Regarding to the presence of tested mutation animals are classified in three groups:

- Clear (wt/wt) - mutation is not present, normal genotype
- Carrier (mut/wt) - one of two alleles carries tested mutation, disease is not clinically manifested
- Affected (mut/mut) - both alleles carry tested mutation, disease is clinically manifested

For each group different breeding strategies should be followed. Breeding of affected and carrier animals should be avoided. If particularly valuable animal is classified as affected, it should be bred only with clear animal. In such case, all first generation siblings will be carriers. If a carrier is bred with clear animal, 50% of siblings are expected to be clear. In case two carriers are bred, 25% of siblings are expected to be clear and 50% are expected to be carriers. However, 25% of siblings are expected to be affected, therefore such breeding practice is discouraged.

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GENETIC REPORT

SAMPLE: BUCCAL SWAB**SAMPLE TAKEN BY:** OWNER**REQUESTED TEST:** MULTI DRUG RESISTANCE (IVERMECTIN SENSITIVITY, MDR1)**RESULT:** CLEAR**COMMENT :**

The test examines presence or absence of MDR1/ABCB1 gene mutation (c.295_298del) described as the cause of multi drug resistance (MDR) in several dog breeds. The condition is characterized by increased susceptibility to neurotoxic side effects of several drugs including Ivermectin. MDR1 gene defect is inherited as an autosomal recessive trait.

Regarding to the presence of tested mutation animals are classified in three groups:

- Clear (wt/wt) - mutation is not present, normal genotype
- Carrier (mut/wt) - one of two alleles carries tested mutation, disease is not clinically manifested
- Affected (mut/mut) - both alleles carry tested mutation, disease is clinically manifested

For each group different breeding strategies should be followed. Breeding of affected and carrier animals should be avoided. If particularly valuable animal is classified as affected, it should be bred only with clear animal. In such case, all first generation siblings will be carriers. If a carrier is bred with clear animal, 50% of siblings are expected to be clear. In case two carriers are bred, 25% of siblings are expected to be clear and 50% are expected to be carriers. However, 25% of siblings are expected to be affected, therefore such breeding practice is discouraged.

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GENETIC REPORT

SAMPLE: BUCCAL SWAB
SAMPLE TAKEN BY: OWNER
REQUESTED TEST: COLLIE EYE ANOMALY (CEA)
RESULT: CLEAR

COMMENT :

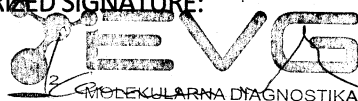
The test examines presence or absence of NHEJ1 gene mutation (c.588+462_588+8260del7799bp) described as the cause for collie eye anomaly (CEA) in several dog breeds. The disease is characterized by different level of impairment of retina and choroid sclera that occurs during development of the eye. Collie eye anomaly is inherited as an autosomal recessive trait.

Regarding to the presence of tested mutation animals are classified in three groups:

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- Carrier (mut/wt) - one of two alleles carries tested mutation, disease is not clinically manifested
- Affected (mut/mut) - both alleles carry tested mutation, disease is clinically manifested

For each group different breeding strategies should be followed. Breeding of affected and carrier animals should be avoided. If particularly valuable animal is classified as affected, it should be bred only with clear animal. In such case, all first generation siblings will be carriers. If a carrier is bred with clear animal, 50% of siblings are expected to be clear. In case two carriers are bred, 25% of siblings are expected to be clear and 50% are expected to be carriers. However, 25% of siblings are expected to be affected, therefore such breeding practice is discouraged.

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