

# GENETIC ANALYSIS SINGLE REPORT



## OWNER'S DETAILS

GRAUFFEL Véronique  
2 rues des Près GRIESBACH LE BASTBERG  
BOUXWILLER  
67330 FR

## COLLECTION DETAILS

Case Number : 17074446  
Date of Test : 23rd Nov 2018  
Collected By : Dr. Rozet Vincent

Approved Collection : YES

## ANIMAL'S DETAILS

Registered Name : INDI DES PLATEAUX DU HAUTS DOUBS  
Pet Name : INDI  
Registration Number : 32782/5428  
Breed : Border Collie  
Microchip Number : 250269810123731  
Sex : Intact Female  
Date of Birth : 23rd Aug 2013  
Colour : Noir. Mar.Fauv. PBl. Lim.

Sample with Lab ID Number 17074446 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported:

TEST REPORTED : E LOCUS - (CREAM/RED/YELLOW)  
RESULT : EE - DOMINANT BLACK DOES NOT CARRY YELLOW/RED/WHITE<sup>1</sup>  
GENE : MC1R  
VARIANT DETECTED : EM (POINT MUTATION) > E (WILD TYPE) > E (POINT MUTATION)

<sup>1</sup> 2 copies of black E or "extension". All areas of the coat colour eumelanin will not produce any "e" offspring. The Extension loci is responsible for the majority of non-agouti patterns.

## RESULTS REVIEWED & CONFIRMED BY:

Dr. Noam Pik BVSc, BMVS, MBA, MACVS



George Sofronidis BSc(Hons)

## 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 not a 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 heterogeneity". 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 similar - 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 continues to increase and we see some 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, history (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 that temperament and phenotype also be considered when breeding.

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