OWNER

Matthew Snape

484B,Comleroy Road,Kurrajong,NSW,2758,Australia

Membership Number : Not Assigned
Member Body/Breed Club : Not Assigned

Orivet Genetic Pet Care

GENETIC COMPREHENSIVE REPORT

Accredited and Compliant with

Members of

OWNER'S DETAILS

Name :	Matthew Snape
Address :	484B,Comleroy Road,Kurrajong,NSW,2758,Australia

ANIMAL'S DETAILS

Registered Name :	Y Not Iowa Cricket
Pet Name :	Cricket
Registration Number :	
Breed :	Koolie
Microchip Number :	953010004186218
Sex :	Male
Date of Birth :	19th Sep 2019
Colour :	Black

SAMPLE COLLECTION DETAILS

Case Number :	21G57205
Collected By :	
Approved Collection :	NO
Sample Type :	SWAB

TEST DETAILS

Test Requested :	Koolie "Worboys" - Full Breed Profile
Pet Name :	Cricket
Date of Test :	14th May 2021

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported:

RESULTS REVIEWED AND CONFIRMED BY

George Sofronidis BSc (Hons)

Dr Noam Pik BVSc, MAVS

ORIVET GENETIC COMPREHENSIVE REPORT

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P1_2	A G	P3_2	A A	P3_3	G G	P11_3	C C	P12_1	G G	P24_2	A A	P12_3	G G	P30_3	A A
P13_1	C C	P24_3	A C	P31_1	A C	P28_3	T T	P31_3	G G	P25_1	G G	P32_2	C C	P13_2	A T
P13_3	A A	P25_2	G G	P25_3	C C	P32_3	A G	P33_1	G G	P14_1	T T	P10_1	A G	P26_1	A G
P33_3	G G	P26_2	A A	P14_2	C G	P26_3	A G	P14_3	A C	P15_1	A A	P34_1	A A	P34_2	A A
P34_3	A C	P10_3	C C	P15_2	A G	P15_3	A C	P16_3	C C	P35_1	A G	P35_2	G G	P36_1	C C
P17_1	A G	P36_2	C C	P37_2	G G	P17_2	A C	P29_1	G G	P37_3	A G	P38_1	A C	P38_2	G G
P27_1	G G	P17_3	A A	P27_2	A A	P4_3	A G	P18_2	C C	P18_3	A C	P5_1	G G	P11_1	G G
P19_1	A A	P19_2	A G	P5_2	G G	P19_3	G G	P2_1	G G	P2_3	A A	P27_3	A A	P20_1	A A
P20_3	A A	P5_3	G G	P11_2	C C	P6_2	G G	P6_3	C C	P21_1	G G	P21_3	A A	P22_2	A A
P28_1	G G	P7_1	C C	P7_2	A G	P28_2	C C	P7_3	A A	P29_2	G G	P8_1	G G	P22_3	G G
P8_2	A G	P8_3	A A	P23_1	C G	P9_3	A T	P23_2	C C	P23_3	A A	P24_1	A G	P3_1	A G

ORIVET GENETIC COMPREHENSIVE REPORT

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BICF2G630306265	G G	BICF2G630326688	A A	BICF2G630328172	A A	BICF2G630328323	A G
BICF2G630367177	A C	BICF2G630409193	A G	BICF2G630453264	G G	BICF2G630474528	A G
BICF2G630499189	A A	BICF2G630539759	A G	BICF2G630552597	G G	BICF2G630653298	A G
BICF2G630666362	A A	BICF2G630691635	G G	BICF2G630704611	G G	BICF2G630708384	G G
BICF2G630762459	C C	BICF2G63078341	A G	BICF2G63088115	A A	BICF2P1010945	G G
BICF2P105070	G G	BICF2P1138733	G G	BICF2P1159837	G G	BICF2P1181787	A G
BICF2P1192522	A A	BICF2P1226745	G G	BICF2P1286728	A A	BICF2P1362405	A G
BICF2P1369088	A A	BICF2P1391407	A A	TIGRP2P255960_rs9030578	A G	TIGRP2P283310_rs8881748	A G
TIGRP2P328303_rs8531882	A C	TIGRP2P354499_rs9162547	G G	TIGRP2P356245_rs8830240	A C	TIGRP2P362535_rs9130694	A G
TIGRP2P389035_rs9038546	A A	BICF2P164304	A G	BICF2P184963	A G	BICF2P251850	C C
BICF2P277987	G G	BICF2P345488	A G	BICF2P401677	A G	BICF2P414351	A G
BICF2P42825	A G	BICF2P452541	A G	BICF2P457665	A G	BICF2P464536	G G
BICF2P465276	A A	BICF2P46604	A A	BICF2P46672	G G	BICF2P496466	A G
BICF2P496837	A G	BICF2P567552	A G	BICF2P590440	A G	BICF2P600196	A G
BICF2P615597	C C	BICF2P635478	A G	BICF2P651575	G G	BICF2P651577	A A
BICF2P70891	C C	BICF2P725743	C G	BICF2P728698	G G	BICF2P789367	G G
BICF2P805553	A A	BICF2P840653	A G	BICF2P885380	A G	BICF2P923421	A G
BICF2P950116	G G	BICF2P963969	G G	BICF2P998036	A C	BICF2S22912385	A A
BICF2S22926284	A G	BICF2S22953709	A C	BICF2S23018785	A G	BICF2S23111132	G G
BICF2S23138418	A G	BICF2S23141330	T T	BICF2S23214514	A C	BICF2S23326150	A G
BICF2S23329382	A C	BICF2S23357186	C G	BICF2S2338108	A G	BICF2S23434277	C G
BICF2S23529290	A G	BICF2S23535154	G G	BICF2S23614068	A A	BICF2S2399705	A A
G1425f16S28	A G	BICF2G630103624	A C	BICF2G630111735	A G	BICF2G630122583	A A
BICF2G630133028	G G	BICF2G630133994	G G	BICF2G630149030	A G	BICF2G630200354	A G
BICF2G630209886	A G	BICF2G630220326	A G	BICF2G630221287	A G	BICF2G630264994	G G
BICF2G630276039	A A	BICF2G630276136	G G				

ORIVET GENETIC COMPREHENSIVE REPORT

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BICF2G630307199	A C	BICF2G630340940	A A	BICF2G630340944	A A	BICF2G630365778	C C
BICF2G630382763	A G	BICF2G630437783	A C	BICF2G630449851	A A	BICF2G630467607	A C
BICF2G630488267	A G	BICF2G630504410	G G	BICF2G630552598	G G	BICF2G630558437	G G
BICF2G630594648	G G	BICF2G630634836	A A	BICF2G630641678	A A	BICF2G630646431	A A
BICF2G630689403	A G	BICF2G630798972	A G	BICF2G630814422	A A	BICF2G63090019	A T
BICF2P1019402	A A	BICF2P103615	G G	BICF2P1060087	A G	BICF2P1104630	G G
BICF2P1141966	G G	BICF2P1173491	G G	BICF2P1183665	A G	BICF2P1193353	G G
BICF2P1216677	A A	BICF2P1226838	A A	BICF2P1232055	G G	BICF2P1271174	A G
BICF2P129347	G G	BICF2P129670	A G	BICF2P1308802	C C	BICF2P1310805	C C
BICF2P1344095	G G	BICF2P1346673	A G	BICF2P1357746	A G	BICF2P1454500	G G
BICF2P155421	A C	BICF2P157421	A A	TIGRP2P106843_rs8858816	A A	TIGRP2P116826_rs8741680	A G
TIGRP2P164720_rs8839809	G G	TIGRP2P177606_rs8886563	G G	TIGRP2P215708_rs8686029	T T	TIGRP2P316532_rs8597522	A A
TIGRP2P372104_rs9153277	A G	TIGRP2P402042_rs9121006	A G	TIGRP2P406551_rs9235397	G G	TIGRP2P407751_rs8803124	A C
BICF2P182473	A A	BICF2P224656	A A	BICF2P237994	A G	BICF2P246592	A A
BICF2P250787	A C	BICF2P25730	A A	BICF2P283440	A G	BICF2P285489	G G
BICF2P345056	A A	BICF2P347679	G G	BICF2P378969	A A	BICF2P382742	A G
BICF2P415783	G G	BICF2P422152	A A	BICF2P508740	C G	BICF2P516667	G G
BICF2P553317	A G	BICF2P554817	A G	BICF2P561057	C C	BICF2P585943	G G
BICF2P624936	A G	BICF2P635172	A G	BICF2P643134	A A	BICF2P65087	A A
BICF2P651576	A A	BICF2P717226	A A	BICF2P751654	G G	BICF2P774003	A C
BICF2P798404	G G	BICF2P842510	A A	BICF2P856893	A G	BICF2P878175	A G
BICF2P935470	A G	BICF2P990814	A A	BICF2S22910736	A A	BICF2S22913753	A A
BICF2S22928800	A G	BICF2S22943825	A G	BICF2S23028732	A A	BICF2S23031254	A C
BICF2S23049416	A G	BICF2S23057560	G G	BICF2S23124313	G G	BICF2S23126079	A G
BICF2S23246455	G G	BICF2S23250041	C C	BICF2S23333411	G G	BICF2S23356653	A G
BICF2S23429022	A G	BICF2S23449478	A G	BICF2S23519644	A G	BICF2S2351979	A G
BICF2S2359809	A G	BICF2S236196	A A	BICF2S23626625	C C	BICF2S23648905	G G
BICF2S23649947	A A	BICF2S23713161	A G	BICF2S23737033	A G	BICF2S24511913	A G
BICF2G630102146	A G	BICF2G630149581	A G	BICF2G630159183	G G	BICF2G630170631	A C
BICF2G630187649	A T	BICF2G630187658	A G	BICF2G630204463	A G	BICF2G630209373	G G
BICF2G630209508	A A	BICF2G630255439	G G	BICF2G630271966	A G	BICF2G630274628	A G

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : COBALAMIN MALABSORPTION: CUBILIN DEFICIENCY (BORDER COLLIE TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Cubilin (CUBN) on chromosome 2

Variant Detected : Nucleotide Deletionc.8392delCp.Gln2798Argfs*3

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : COLLIE EYE ANOMALY/CHOROIDAL HYPOPLASIA

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Non-homologous end joining factor 1 (NHEJ1) on chromosome 37

Variant Detected : Nucleotide Deletion7799 base pair deletion in Intron 4 of the NHEJ1 gene

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : CYSTINURIA (SLC3A1) (AUSTRALIAN CATTLE DOG TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Solute carrier family 3 member 1 (SLC3A1) on chromosome 10

Variant Detected : Nucleotide Deletionc.1095-1100delp.366-367Thr deletion (inframe)

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : DEGENERATIVE MYELOPATHY

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Superoxide dismutase 1 (SOD1) on chromosome 31

Variant Detected : Base Substitutionc.118G>Ap.Glu40Lys

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : GONIODYSGENESIS AND GLAUCOMA (BORDER COLLIE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : OLFML3

Variant Detected : c.590G>A

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : HYPERURICOSURIA

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Solute carrier family 2 member 9 (SLC2A9) on chromosome 3

Variant Detected : Base Substitutionc.563G>Tp.Cys188Phe

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : IVERMECTIN SENSITIVITY MDR1 (MULTI DRUG RESISTANCE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : MDR1 on Chromosome 14

Variant Detected : Deletion 4bp AGAT

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : MULTIFOCAL RETINOPATHY CMR1 (MASTIFF/BULL BREEDS TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Bestrophin 1 (BEST1) on chromosome 18

Variant Detected : Base Substitution c.73C>T p.Arg25STOP

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : MYOTONIA CONGENITA CLCN1 (CATTLE DOG TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : CLCN1

Variant Detected : Deletion of A

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : MYOTONIA HEREDITARIA (CATTLE DOG TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Chloride voltage-gated channel 1 (CLCN1) on chromosome 16

Variant Detected : c.2703-2704 insertion Ap.Arg890Gln-frameshift888

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : NEURONAL CEROID LIPOFUSCINOSIS 5 (BORDER COLLIE TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : CLN5, intracellular trafficking protein (CLN5) on Chromosome 22

Variant Detected : Base Substitutionc.619C>Tp.Glu206STOP

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : PRIMARY LENS LUXATION

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : ADAM metallopeptidase with thrombospondin type 1 motif 17 (ADAMTS17) on Chromosome 3

Variant Detected : Base Substitutionc.1473+1G>Asplice-donor-site mutation at the 5' end of intron 10

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : PROGRESSIVE ROD CONE DEGENERATION (PRCD) - PRA

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Photoreceptor disc component (PRCD) on Chromosome 9

Variant Detected : Base Substitutionc.5 G>Ap.Cys2Tyr

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : RAINE SYNDROME DENTAL HYPOMINERALISATION (BORDER COLLIE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : FAM20C

Variant Detected : c.899C>T

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : TRAPPED NEUTROPHIL SYNDROME (BORDER COLLIE TYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Vacuolar protein sorting 13 homolog B (VPS13B) on Chromosome 13

Variant Detected : Nucleotide DeletionCanFam 2.1 (g.4411956_4411960delGTTT)

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : E LOCUS - (CREAM/RED/YELLOW)

Result : E/E - DOMINANT BLACK DOES NOT CARRY YELLOW/RED/WHITE[1]

Gene : MC1R

Variant Detected : Em (point mutation) > E (wild type) > e (point mutation)

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

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : E LOCUS (CATTLE DOG CREAM VARIANT) E2

Result : E^2/E^2 - DOMINANT BLACK DOES NOT CARRY "AUSTRALIAN CATTLE DOG" TYPE CREAM[1]

Gene : MC1R

Variant Detected :

This e2 variant is associated with the pale cream coat colour seen in the Australian cattle dog and other varieties or breeds of common ancestry.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : E LOCUS (ARTIC BREEDS PALE/YELLOW/WHITE VARIANT) E3

Result : E^3/E^3 - DOMINANT BLACK DOES NOT CARRY "HUSKY TYPE" PALE YELLOW/WHITE[1]

Gene : MC1R

Variant Detected :

This e3 variant is known for the production of the pale yellow/white coat colour seen in the Siberian Husky and any breeds of common ancestry or mixes.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : EM (MC1R) LOCUS - MELANISTIC MASK

Result : E^m/E^m - TWO MELANISTIC MASK ALLELES DEPENDS ON A and K SERIES[1]

Gene : MC1R

Variant Detected : Base Substitution G>A

2 copies of mask – dog has mask. Masks are not visible on black, brown or blue dogs. Some other coat patterns such as Merle, Harlequin and Spotting may also "hide" the mask. Some breeds are "fixed" for the mask and the genetic result will never vary.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : BROWN (345DELPRO) DELETION

Result : B^d/B^d - DOES NOT CARRY BROWN/RED/LIVER or CHOCOLATE [DELETION][1]

Gene : TYRP1

Variant Detected : Base Substitution (Point Mutation)

Does not carry the brown deletion codon. Please refer to the other brown variants to clarify potential colour for offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : BROWN (GLNT331STOP) STOP CODON

Result : B^s/b^s - CARRIER OF BROWN/LIVER/RED/CHOCOLATE [STOP CODON][1]

Gene : TYRP1

Variant Detected : Point Mutation

One copy of brown stop codon SNP present – carrier. Can produce brown/chocolate/liver pups if mated with another carrier. Please note this could be a "compound heterozygote" and thus be brown/chocolate. Refer to the other 2 chocolate SNPs to confirm.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : BROWN (SER41CYS) INSERTION CODON

Result : B^c/B^c - DOES NOT CARRY BROWN/RED/LIVER or CHOCOLATE [INSERTION][1]

Gene : TYRP1

Variant Detected : Base Substitution (Point Mutation)

Does not carry the brown insertion codon. Please refer to the other brown variants to clarify potential colour for offspring.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : LIVER [TYRP1] (LANCASHIRE HEELER TYPE)

Result : B^e/B^e - DOES NOT CARRY BROWN/LIVER [TYRP1][1]

Gene :

Variant Detected :

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : D (DILUTE) LOCUS

Result : D/d - CARRIER OF DILUTE [WILL HAVE NORMAL PIGMENT][1]

Gene : MLPH

Variant Detected : Base Substitution

Full colour, carries 1 copy of the dilute gene. May be produce dilute (dd) offspring if mated with another dilute carrier (Dd). Please Note: There are other dilute variants d2 (Sloughi, Chow Chow & Thai Ridgeback) and rare d3 (Italian Greyhound & Chihuahua) so this test/result may not identify dilute in these breeds.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : DILUTE D2 VARIANT (CHOW CHOW TYPE)

Result : D^2/D^2 - NO COPY OF d2 ALLELE (DILUTE) - PIGMENT IS NORMAL [1]

Gene : MLPH

Variant Detected : c.705G>C

This d2 variant has been shown to be associated with the blue/dilute seen in the Chow Chow, Sloughi, Thai Ridgeback and any mixes of these breeds.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : K LOCUS (DOMINANT BLACK)

Result : k^y/k^y - RECESSIVE NON- BLACK [COLOUR PATTERN DETERMINED BY A LOCUS][1]

Gene : CBD103

Variant Detected : Deletion of GGG

Dog does not have the dominant black mutation. Dog's coat colour will be determined by the agouti gene – may be brindled or not brindled. Any phaeomelanin (red/tan) will be brindled. Can be sable/fawn, tricolour, tan points, black or brown. Will (may) have black pigment and black markings (unless the extension locus interferes).

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : A LOCUS (FAWN/SABLE;TRI/TAN POINTS)

Result : a^t/a^t - TAN POINTS/BLACK & TAN or TRICOLOUR MAY BE BRINDLED [SEE K LOCUS][1]

Gene : ASIP

Variant Detected : Base Substitution 246 G>T(A82S); G>A (R83H): C>T (p.R96C)

Homozygous for black and tan/tricolour (no hidden colours) allele. Tri factored/white factored in dogs that have white points. No Bi Factoring (Black White & Tan). Animals are primarily black and have areas of pheomelanin (tan) which tends to be seen on the leg and stomach areas, the side of he head and spots above the eyes. Please note the colour and distribution of pheomelanin "tan" will be dependent on the breed and other colour genes. Please note that any genes on the "A" series will only be expressed if the K locus is kk, kkbr or kbrkbr.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : MERLE - SINGLE ASSAY TEST

Result : PENDING [RESULT IS PROCESSING][1]

Gene : SILV

Variant Detected : 250 base pair SINE insertion, oligo(dA)-rich tails with length polymorphism. Detects and reports all the 7 alleles on the M Locus (Mh, M, Ma+, Ma, Mc+, Mc and m)

Results for this test are still being processed. Some tests are run independently and are reported at a later date. When completed, the result will be reported.

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : LONG HAIR GENE (CANINE C95F)

Result : NEGATIVE - NOT SHOWING THE PHENOTYPE[1]

Gene : FGF5

Variant Detected : p.Cys95Phe c284G>T (Point Mutation)

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : SHEDDING (MC5R)

Result : shd/shd [LOW SHEDDING] - TWO COPIES OF THE shd (MC5R) VARIANT DETECTED REFER TO R151W (IC) FOR LEVEL OF SHEDDING[1]

Gene : MC5R

Variant Detected :

The dog will (may) exhibit a low leves of shedding. Please Note: this level is also dependent on the furnishing allele. If the dog has no IC (R151W) phenotype will be low shedding.

ORIVET GENETIC COMPREHENSIVE REPORT

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : COAT COMPOSITION CFA28 GENE (DOUBLE/SINGLE COAT)

Result : UDC/udc - ONE COPY OF THE DOUBLE COAT (DENSE UNDERCOAT) PHENOTYPE DETECTED[1]

Gene : CFA28

Variant Detected :

Moderate to Low Shedding please refer to IC result to clarify level of shedding

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : CURLY COAT (RSPO2 R151W)

Result : NEGATIVE (F/F) FOR THE R151W VARIANT - NOT SHOWING THE CURLY COAT (IC) PHENOTYPE[1]

Gene : KRT71 (R151W)

Variant Detected : c.451C>T

Sample with Lab ID Number 21G57205 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

Test Reported : NATURAL BOB TAIL (SHORT TAIL PHENOTYPE)

Result : NEGATIVE / CLEAR [NO VARIANT DETECTED][1]

Gene : Gene: T on Chromosome 1

Variant Detected : Base Substitution C>G

We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the disease-causing variant. Can be mated with an untested animal and WILL NOT produce any positive/affected offspring.

GLOSSARY OF GENETIC TERMS (RESULTS)

The terms below are provided to help clarify certain results phrases on your genetic report. The phrases below are those as reported by Orivet and may vary from one laboratory to the other.

NEGATIVE / CLEAR [NO VARIANT DETECTED]

No presence of the variant (mutation) has been detected. The animal is clear of the disease and will not pass on any disease-causing mutation.

CARRIER [ONE COPY OF THE VARIANT DETECTED]

This is also referred to as HETEROZYGOUS. One copy of the normal gene and copy of the affected (mutant) gene has been detected. The animal 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.

POSITIVE / AT RISK [TWO COPIES OF THE VARIANT DETECTED]

Two copies of the disease gene variant (mutation) have been detected also referred to as HOMOZYGOUS for the variant. The animal may show symptoms (affected) associated with the disease. Appropriate treatment should be pursued by consulting a Veterinarian.

POSITIVE HETEROZYGOUS [ONE COPY OF THE DOMINANT VARIANT DETECTED]

Also referred to as POSITIVE ONE COPY or POSITIVE HETEROZYGOUS. This result is associated with a disease that has a dominant mode of inheritance. One copy of the normal gene (wild type) and affected (mutant) gene is present. Appropriate treatment should be pursued by consulting a Veterinarian. This result can still be used to produce a clear offspring.

NORMAL BY PARENTAGE HISTORY

The sample submitted has had its parentage verified by DNA. By interrogating the DNA profiles of the Dam, Sire and Offspring 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.

NORMAL BY PEDIGREE

The sample submitted has had its parentage verified by Pedigree. The pedigree has been provided and details (genetic testing reports) of the parents have been included. Parentage could not be determined via DNA profile as no sample was submitted.

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.

INDETERMINABLE

The sample submitted has failed to give a conclusive result. This result is mainly due to the sample failing to "cluster" or result in the current grouping. A recollection is required at no charge.

DNA PROFILE

Also known as a DNA fingerprint. This 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). This profile contains no disease or trait information and is simply a unique DNA signature for that animal.

GLOSSARY OF GENETIC TERMS (RESULTS)

The terms below are provided to help clarify certain results phrases on your genetic report. The phrases below are those as reported by Orivet and may vary from one laboratory to the other.

PARENTAGE VERIFICATION/ QUALIFIES/CONFIRMED Or DOES NOT QUALIFY/EXCLUDED

Parentage is determined by examining the markers on the DNA profile. A result is generated and stated for all DNA parentage requests.Parentage confirmation reports can only be generated if a DNA profile has been carried out for Dam, Offspring and possible Sire/s.

PENDING

Results for this test are still being processed. Some tests are run independently and are reported at a later date. When completed, the result will be emailed. APPROVED COLLECTION METHOD (NO) The sample submitted for testing HAS NOT met the requirements recommended by member bodies for the DNA collection process.

TRAIT (PHENOTYPE)

A feature that an animal is born with (a genetically determined characteristic). Traits are a visual phenotype that range from colour to hairlength, and 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.

POSITIVE – SHOWING THE PHENOTYPE

The animal is showing the trait or phenotype tested.

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.

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 clarifythese 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.

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 or admin@orivet.com and we will be happy to work with you to answer any relevant questions.