



# Orivet

# Genetic Comprehensive Report

**Animal Name:** Merlin

**Owner:**

Amanda Broderick

Membership Number : Not assigned

Member Body/Breed Club: Not assigned

Approved Collection Method: No



[orivet.com](https://orivet.com)

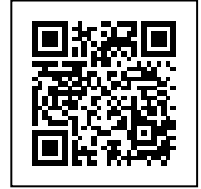
Accredited and Compliant with



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Harmonization of  
Genetic Testing  
for Dogs



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this Report online

## Owner's details

Name: Amanda Broderick

## Animal's Details

Registered Name : First's Flight Of Merlin The White

Pet Name : Merlin

Registration Number : SS23269704

Breed : Golden Retriever

Microchip Number : 985113004247345

Sex : Neutered Male

Date of Birth : 30th Dec 2020

Colour : White Gold

## Sample Collection Details

Case Number : 24A106350

Collected By :

Approved Collection : No

Sample Type : SWAB

## Test Details

Test Requested : Golden Retriever - Full Breed Profile

Pet Name : Merlin

Date of Test : 11th Jul 2024

## Authorisation

Sample with Lab ID Number 24A106350 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported:

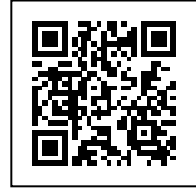
George Sofronidis BSc (Hons)

Dr Noam Pik BVSc, MAVS





# Genetic Comprehensive Report



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## Animal's Details

Registered Name :	First's Flight Of Merlin The White
Pet Name :	Merlin
Registration Number :	SS23269704
Breed :	Golden Retriever
Microchip Number :	985113004247345
Sex :	Neutered Male
Date of Birth :	30th Dec 2020
Colour :	White Gold

## ISAG Profile 1

Cfam_1:106430955	AA	Cfam_1:119414584	AA	Cfam_1:20842130	AA	Cfam_1:3962719	AG	Cfam_1:70238933	AA	Cfam_1:80971770	AA
(B)CF2S23111132)		(B)CF2P157421)				(B)CF2G630708384)		(B)CF2P554817)		(B)CF2S2338108)	AG
Cfam_10:10652659	AG	Cfam_10:22409408		Cfam_10:30034450		Cfam_10:66922269	AG	Cfam_11:23907101		Cfam_11:5318488	
(B)CF2P237994)						(B)CF2S23049416)		(B)CF2P1308802)		Cfam_13:59896033	AC
Cfam_11:65603333		Cfam_12:35306641		Cfam_12:55201839	GG	Cfam_12:5579055	AA	Cfam_12:68125319		Cfam_16:29634940	GG
				(B)CF2G630122583)		(B)CF2P382742)		(B)CF2P1344095)		(B)CF2P561057)	
Cfam_13:8704192	GG	Cfam_14:50063321	AA	Cfam_14:58465266	AG	Cfam_15:19299365	AA	Cfam_15:22834903		Cfam_18:54361347	GG
(B)CF2P182473)		(B)CF2P624936)		(P24_2)		(B)CF2P105070)		(B)CF2G630437783)		(B)CF2G630111735)	GG
Cfam_16:46884446	AA	Cfam_16:57958947	AG	Cfam_17:10649078	AA	Cfam_17:34462308	AG	Cfam_17:39124697		Cfam_18:54361347	GG
(B)CF2P774003)		(B)CF2P635478)		(B)CF2G630220326)		(B)CF2G630209373)		(B)CF2P998036)		(B)CF2G630689403)	GG
Cfam_18:6745949	GG	Cfam_19:15926130	CC	Cfam_19:27288167	AA	Cfam_19:47470564	AC	Cfam_19:841347		Cfam_2:2610859	GG
(B)CF2S23535154)		(P13_3)		(B)CF2P251850)		(B)CF2S23214514)		(B)CF2S23737033)		(P32_3)	
Cfam_2:38293797	AA	Cfam_2:77806065	GG	Cfam_20:13740894	AA	Cfam_20:49900586	AG	Cfam_20:57167714		Cfam_21:15558670	AA
(B)CF2P1159837)		(B)CF2P878175)		(B)CF2S23246455)		(B)CF2P347679)		(P26_1)		(B)CF2G630653298)	AC
Cfam_21:25537675	GG	Cfam_21:35719434	AA	Cfam_22:26694580	GG	Cfam_22:55308193	AC	Cfam_22:641125		Cfam_23:42886681	AC
(B)CF2S23018785)		(B)CF2S23326150)		(B)CF2G630326688)		(B)CF2S2329382)		Cfam_24:47381908	AA	Cfam_25:2073511	AC
Cfam_23:50772488	AG	Cfam_24:23393510		Cfam_24:29909901	AA	Cfam_24:47381908	AA	Cfam_25:2073511		(P34_1)	GG
(B)CF2P277987)				(T)GRP2P316532_rs8597522)	AA	(B)CF2P990814)		(P15_3)		(B)CF2G630102146)	AC
Cfam_25:47708600	AA	Cfam_26:20004896	AA	Cfam_26:35071515	AG	Cfam_27:22599860	GG	Cfam_27:2619058		Cfam_27:41049333	AC
(B)CF2G630159183)		(B)CF2G630798972)		(B)CF2P1192522)		(B)CF2G630149030)		(B)CF2S236196)		(T)GRP2P356245_rs8830240)	AC
Cfam_28:18509221	GG	Cfam_28:38885325	AA	Cfam_28:9877730	GG	Cfam_29:17561258	GG	Cfam_29:251970		Cfam_29:36319325	AC
(B)CF2G630271966)		(T)GRP2P362535_rs9130694)		(B)CF2G630276039)		(B)CF2S23713161)		Cfam_30:15542105		(B)CF2G630634836)	AG
Cfam_29:9425359	GG	Cfam_3:1252765	AA	Cfam_3:24757939	AA	Cfam_3:73570828		Cfam_30:15542105		Cfam_30:32852404	AG
(P17_3)		(P27_2)						(B)CF2G630409193)		(T)GRP2P372104_rs9153277)	GG
Cfam_30:3896482	GG	Cfam_31:21068798	AA	Cfam_31:39391935	AG	Cfam_32:17792284	AG	Cfam_32:32382778		Cfam_32:679380	GG
(B)CF2S23124313)		(B)CF2P1454500)		(B)CF2G630200354)		(B)CF2G630594648)		(B)CF2P885380)		(G1425116528)	GG
Cfam_33:15018500	GG	Cfam_33:23742061		Cfam_34:195313	CC	Cfam_34:24396298		Cfam_35:15345329		Cfam_36:12714421	GG
(B)CF2P516667)				(P2_3)				(T)GRP2P407751_rs8803124)		(B)CF2P1226745)	GG
Cfam_36:23459390	AG	Cfam_36:3565500	AA	Cfam_37:15436615	GG	Cfam_37:27667297	GG	Cfam_37:9398945		Cfam_38:17657161	GG
(B)CF2P935470)		(B)CF2P728698)		(P21_3)		(B)CF2G630133028)					
Cfam_38:20441216	GG	Cfam_38:9224942	AA	Cfam_4:31301072	AA	Cfam_4:64121754		Cfam_4:75910211		Cfam_4:86049027	GG
(B)CF2P600196)		(B)CF2P615597)		(B)CF2P805553)				Cfam_6:11553458	AA	(B)CF2P1357746)	GG
Cfam_5:26320165	GG	Cfam_5:5410890	AG	Cfam_5:85451804	GG	Cfam_6:11553458	GG	Cfam_6:33976751		Cfam_6:64006720	GG
		(B)CF2S23648905)		(B)CF2P1346673)		(P8_1)					
Cfam_7:15011628	GG	Cfam_7:36555518	AG	Cfam_7:76294	AG	Cfam_8:18121580	AG	Cfam_8:45852939		Cfam_8:5291824	GG
(B)CF2G630552597)		(B)CF2G630558437)				(B)CF2P65087)				(P23_3)	
Cfam_8:63196958	GG	Cfam_9:22610227	AG	Cfam_9:40096141	GG	Cfam_9:52710991	GG	Cfam_9:60437147			
(B)CF2S23449478)		(B)CF2P1010945)		(B)CF2P1216677)		(P24_1)		(B)CF2S22943825)			

Owner's Name : Amanda Broderick

Pet Name : Merlin

Microchip Number 985113004247345

Approved Collection Method : No



# Genetic Comprehensive Report

## Animal's Details

Registered Name :	First's Flight Of Merlin The White
Pet Name :	Merlin
Registration Number :	SS23269704
Breed :	Golden Retriever
Microchip Number :	985113004247345
Sex :	Neutered Male
Date of Birth :	30th Dec 2020
Colour :	White Gold

## ISAG Profile 2

Cfam_1:119306331 (BI CF2P635172) Cfam_10:57954366 (BI CF2P963969) Cfam_12:40681020 (TI GRP2P164720_rs8839809) Cfam_16:29675662 (BI CF2S23250041) Cfam_18:16385020 (BI CF2S23529290) Cfam_19:42756283 (BI CF2P401677) Cfam_21:31751817 (BI CF2P42825) Cfam_23:44497217	GG Cfam_1:72613047 (P1_2) GG Cfam_10:8085469 GG Cfam_12:6337286 (BI CF2P1193353) Cfam_16:58093031 (P24_3) GG Cfam_18:16388978 (BI CF2P250787) Cfam_20:45777531 (BI CF2P345488) Cfam_22:20498421 Cfam_23:48055836 (BI CF2G630365778) Cfam_25:4614777 (BI CF2P1362405) Cfam_28:35104850 (BI CF2P1226838) Cfam_3:10255068 (BI CF2S2399705) Cfam_3:91626907 A G Cfam_33:15233992 (BI CF2S23356653) Cfam_34:37323213 (BI CF2P590440) Cfam_36:288045 (P6_2) Cfam_37:30902202	A G Cfam_1:74450772 Cfam_11:1161870 A G Cfam_12:70657733 (BI CF2P1183665) Cfam_17:12787849 C C Cfam_18:31579269 (BI CF2P184963) Cfam_20:48602465 (BI CF2P840653) Cfam_22:33934047 (BI CF2G630328323) Cfam_24:18599997 (BI CF2G630504410) Cfam_27:20948372 (BI CF2S2359809) Cfam_28:9703418 (BI CF2G630276136) Cfam_3:37849557 (BI CF2P643134) Cfam_30:10012939 GG Cfam_33:22070526 (BI CF2G63078341) Cfam_34:41703614 (BI CF2P590440) Cfam_36:9241262 (P6_2) Cfam_37:30902202	Cfam_10:14685262 (BI CF2G630666362) Cfam_11:62157625 (BI CF2G630306265) Cfam_12:8532712 (BI CF2P496466) Cfam_17:57371669 (BI CF2S2351979) Cfam_18:47325586 (TI GRP2P255960_rs9030578) Cfam_20:6046176 (BI CF2S22910736) Cfam_22:37522364 (BI CF2P345056) Cfam_24:27925354 A A Cfam_27:34444177 (TI GRP2P354499_rs9162547) Cfam_29:19681270 A G Cfam_3:43055696 (BI CF2G630340940) Cfam_30:11735245 (BI CF2P103615) Cfam_33:22472901 (BI CF2P378969) Cfam_35:15283717 (BI CF2S23429022) Cfam_37:18338930 Cfam_38:15271384 (BI CF2S22928800) Cfam_5:13080303	A A Cfam_10:39548483 (BI CF2G630488267) Cfam_11:706998603 A G Cfam_12:630307199 (BI CF2P651575) Cfam_17:9407683 (BI CF2G630221287) Cfam_19:30246414 (P25_2) Cfam_21:22581321 A A Cfam_22:39647748 (BI CF2S23519644) Cfam_24:30954773 (BI CF2G630499189) Cfam_27:42526114 (BI CF2S22913753) Cfam_29:22992304 (BI CF2P950116) Cfam_3:43063677 (BI CF2G630340944) Cfam_30:27619023 (BI CF2S22926284) Cfam_33:22648231 (TI GRP2P389035_rs9038546) Cfam_36:10084888 (BI CF2P129670) Cfam_37:26611359 (BI CF2P129347) Cfam_38:19172567 (BI CF2S23031254) Cfam_5:36642434	A A Cfam_10:47923623 A C Cfam_12:23059939 (BI CF2P465276) Cfam_14:55735620 GG Cfam_18:10189759 (BI CF2P46604) Cfam_19:40189405 (BI CF2P1310805) Cfam_21:29796784 (TI GRP2P283310_rs8881748) Cfam_22:61153661 (P26_3) Cfam_24:43589304 (BI CF2S23138418) Cfam_28:12804225 (BI CF2G630274628) Cfam_29:4020192 (BI CF2P464536) Cfam_3:40684413 (P4_3) Cfam_31:20912553 GG Cfam_34:24351570 (BI CF2S23649947) Cfam_36:12723744 (BI CF2P70891) Cfam_37:28611801 (BI CF2G630133994) Cfam_38:20930997 (BI CF2S23614068) Cfam_5:44650576 (BI CF2G630187658) Cfam_7:76487265 GG Cfam_9:20867959
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Owner's Name : Amanda Broderick

Pet Name : Merlin

Microchip Number 985113004247345

Approved Collection Method : No



# Genetic Comprehensive Report

## Animal's Details

Registered Name :	First's Flight Of Merlin The White
Pet Name :	Merlin
Registration Number :	SS23269704
Breed :	Golden Retriever
Microchip Number :	985113004247345
Sex :	Neutered Male
Date of Birth :	30th Dec 2020
Colour :	White Gold

## DNA Profile

BI CF2G630102146 (BI CF2G630102146) BI CF2G630255439 (BI CF2G630255439) BI CF2G630382763 (BI CF2G630382763) BI CF2G630552598 (BI CF2G630552598) BI CF2G630798972 (BI CF2G630798972) BI CF2P1141966 (BI CF2P1141966) BI CF2P1232055 (BI CF2P1232055) BI CF2P1344095 (BI CF2P1344095) BI CF2P182473 (BI CF2P182473) BI CF2P283440 (BI CF2P283440) BI CF2P415783 (BI CF2P415783) BI CF2P561057 (BI CF2P561057) BI CF2P717226 (BI CF2P717226) BI CF2P878175 (BI CF2P878175) BI CF2S23028732 (BI CF2S23028732) BI CF2S23246455 (BI CF2S23246455) BI CF2S23519644 (BI CF2S23519644) BI CF2S23649947 (BI CF2S23649947) TI GRP2P164720_rs8839809 (TI GRP2P164720_rs8839809) TI GRP2P406551_rs9235397 (TI GRP2P406551_rs9235397) TI GRP2P2406551_rs9235397 (TI GRP2P2406551_rs9235397) BI CF2P1060087 (BI CF2P1060087)	GG BI CF2G630149581 (BI CF2G630149581) AG BI CF2G630274628 (BI CF2G630274628) AG BI CF2G630437783 (BI CF2G630437783) GG BI CF2G630558437 (BI CF2G630558437) AA BI CF2G630814422 (BI CF2G630814422) GG BI CF2P1173491 (BI CF2P1173491) GG BI CF2P1271174 (BI CF2P1271174) AA BI CF2P1271174 (BI CF2P1271174) AA BI CF2P1346673 (BI CF2P1346673) GG BI CF2P224656 (BI CF2P224656) AG BI CF2P224656 (BI CF2P224656) AG BI CF2P285489 (BI CF2P285489) AG BI CF2P422152 (BI CF2P422152) AG BI CF2P585943 (BI CF2P585943) AA BI CF2P751654 (BI CF2P751654) GG BI CF2P935470 (BI CF2P935470) TT BI CF2S23031254 (BI CF2S23031254) AA BI CF2S23250041 (BI CF2S23250041) GG BI CF2S2351979 (BI CF2S2351979) AG BI CF2S23713161 (BI CF2S23713161) GG TI GRP2P177606_rs8886563 (TI GRP2P177606_rs8886563) AG TI GRP2P407751_rs8803124 (TI GRP2P407751_rs8803124) GG BI CF2P643134 (BI CF2P643134)	GG BI CF2G630187649 (BI CF2G630187649) AG BI CF2G630307199 (BI CF2G630307199) CC BI CF2G630449851 (BI CF2G630449851) AG BI CF2G630594648 (BI CF2G630594648) AA BI CF2G63090019 (BI CF2G63090019) GG BI CF2P1183665 (BI CF2P1183665) GG BI CF2P129347 (BI CF2P129347) GG BI CF2P1357746 (BI CF2P1357746) CC BI CF2P237994 (BI CF2P237994) GG BI CF2P345056 (BI CF2P345056) AG BI CF2P508740 (BI CF2P508740) AG BI CF2P624936 (BI CF2P624936) AG BI CF2P774003 (BI CF2P774003) AG BI CF2S22910736 (BI CF2S22910736) CC BI CF2S23049416 (BI CF2S23049416) CC BI CF2S23333411 (BI CF2S23333411) GG BI CF2S2359809 (BI CF2S2359809) GG BI CF2S23730733 (BI CF2S23730733) GG TI GRP2P215708_rs8686029 (TI GRP2P215708_rs8686029) AA BI CF2G630271966 (BI CF2G630271966) AG BI CF2P990814 (BI CF2P990814)	AT BI CF2G630187658 (BI CF2G630187658) AC BI CF2G630340940 (BI CF2G630340940) AG BI CF2G630467607 (BI CF2G630467607) AG BI CF2G630634836 (BI CF2G630634836) AT BI CF2P1019402 (BI CF2P1019402) AA BI CF2P1193353 (BI CF2P1193353) AA BI CF2P129670 (BI CF2P129670) AG BI CF2P1454500 (BI CF2P1454500) AG BI CF2P246592 (BI CF2P246592) AA BI CF2P347679 (BI CF2P347679) GG BI CF2P516667 (BI CF2P516667) AA BI CF2P635172 (BI CF2P635172) AA BI CF2P798404 (BI CF2P798404) AA BI CF2S22913753 (BI CF2S22913753) AG BI CF2S23057560 (BI CF2S23057560) GG BI CF2S23356653 (BI CF2S23356653) AA BI CF2S236196 (BI CF2S236196) AG BI CF2S24511913 (BI CF2S24511913) AA TI GRP2P316532_rs8597522 (TI GRP2P316532_rs8597522) GG BI CF2G630159183 (BI CF2G630159183)	GG BI CF2G630209373 (BI CF2G630209373) AG BI CF2G630340944 (BI CF2G630340944) CC BI CF2G63040944 (BI CF2G63040944) CC BI CF2G630488267 (BI CF2G630488267) AC BI CF2G630641678 (BI CF2G630641678) AG BI CF2P103615 (BI CF2P103615) AG BI CF2P1216677 (BI CF2P1216677) AA BI CF2P1308802 (BI CF2P1308802) AA BI CF2P155421 (BI CF2P155421) AC BI CF2P250787 (BI CF2P250787) AG BI CF2P378969 (BI CF2P378969) GG BI CF2P553317 (BI CF2P553317) GG BI CF2P65087 (BI CF2P65087) GG BI CF2P842510 (BI CF2P842510) AG BI CF2S22928800 (BI CF2S22928800) GG BI CF2S23124313 (BI CF2S23124313) GG BI CF2S23429022 (BI CF2S23429022) AA BI CF2S23626625 (BI CF2S23626625) AG TI GRP2P106843_rs8858816 (TI GRP2P106843_rs8858816) AA TI GRP2P372104_rs9153277 (TI GRP2P372104_rs9153277) AA BI CF2G630170631 (BI CF2G630170631)	AG BI CF2G630209508 (BI CF2G630209508) AG BI CF2G630365778 (BI CF2G630365778) AA BI CF2G630504410 (BI CF2G630504410) AG BI CF2G630504410 (BI CF2G630504410) AG BI CF2G630689403 (BI CF2G630689403) AA BI CF2P1104630 (BI CF2P1104630) GG BI CF2P1226838 (BI CF2P1226838) AC BI CF2P1310805 (BI CF2P1310805) AA BI CF2P157421 (BI CF2P157421) CC BI CF2P25730 (BI CF2P25730) AC BI CF2P382742 (BI CF2P382742) AA BI CF2P554817 (BI CF2P554817) AG BI CF2P651576 (BI CF2P651576) GG BI CF2P856893 (BI CF2P856893) GG BI CF2S22943825 (BI CF2S22943825) GG BI CF2S23126079 (BI CF2S23126079) GG BI CF2S23126079 (BI CF2S23126079) GG BI CF2S23449478 (BI CF2S23449478) GG BI CF2S23648905 (BI CF2S23648905) AA TI GRP2P116826_rs8741680 (TI GRP2P116826_rs8741680) AG TI GRP2P402042_rs9121006 (TI GRP2P402042_rs9121006) AG BI CF2G630646431 (BI CF2G630646431)
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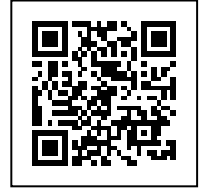
Owner's Name : Amanda Broderick

Pet Name : Merlin

Microchip Number 985113004247345

Approved Collection Method : No





Scan to authenticate  
this Report online

## Genetic Comprehensive Report

Sample with Lab ID Number 24A106350 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

**Test Reported :** CONGENITAL EYE MALFORMATION (GOLDEN RETRIEVER)

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** SIX6, chr8

**Variant Detected :** c.487C>Tp.Gln163\*

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.

**Test Reported :** DEGENERATIVE MYELOPATHY

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**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.

**Test Reported :** DYSTROPHIC EPIDERMOLYSIS BULLOSA (GOLDEN RETRIEVER TYPE)

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** Collagen type VII alpha 1 chain (COL7A1) Chromosome 20

**Variant Detected :** Base Substitutionc.5797G>Ap.Gly1906Ser

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.

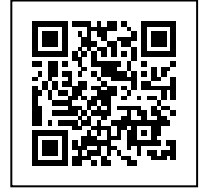
**Owner's Name :** Amanda Broderick

**Pet Name :** Merlin

**Microchip Number** 985113004247345

**Approved Collection Method :** No





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this Report online

## Genetic Comprehensive Report

Sample with Lab ID Number 24A106350 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

**Test Reported :** GENERALISED PRA 1 (GOLDEN RETRIEVER TYPE)

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** Solute carrier family 4 member 3 (SLC4A3) on chromosome 37

**Variant Detected :** C.2601-2602 Insertion Cp.Glu868Arg-frameshiftX104

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.

**Test Reported :** GENERALISED PRA 2 (GOLDEN RETRIEVER TYPE)

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** Tetratricopeptide repeat domain 8 (TTC8) on chromosome 8

**Variant Detected :** c.669delAp.Lys223Arg-frameshiftX15

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.

**Test Reported :** ICHTHYOSIS (GOLDEN RETRIEVER TYPE 2)

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** ABHD5

**Variant Detected :** chr23:2274932-2274945 (canFam4): 14 bp deletion (GACTTCAACCAGAA)

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.

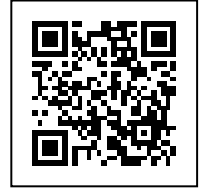
**Owner's Name :** Amanda Broderick

**Pet Name :** Merlin

**Microchip Number** 985113004247345

**Approved Collection Method :** No





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## Genetic Comprehensive Report

Sample with Lab ID Number 24A106350 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

### Test Reported : ICHTHYOSIS A (GOLDEN RETRIEVER)

Result : **CARRIER [ONE COPY OF THE VARIANT DETECTED]**<sup>1</sup>

Gene : Patatin like phospholipase domain containing 1 (PNPLA1) on Chromosome 12

#### Variant Detected :

Nucleotide Insertion and Nucleotide Deletionc.1445-1447delACC and c.1447insTACTACTAp.Asn482Ilefs9X

We have scanned your animal's DNA and one copy of the normal gene and copy of the positive (mutant) gene has been detected. The genotype of the animal tested is CARRIER this result may also be referred to as HETEROZYGOUS or A/N or "+/-". Being an autosomal recessive disease the animal will not exhibit disease symptoms or develop the disease. Consideration needs to be taken if breeding this animal as it may produce affected offspring if mated to another carrier. It is recommended to have any breeding partner tested before breeding.

### Test Reported : NEURONAL CEROID LIPOFUSCINOSIS NCL (GOLDEN RETRIEVER TYPE)

Result : **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

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

Variant Detected : Nucleotide Deletionc.934\_935delAGp.E312Vfs\*6

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.

### Test Reported : OSTEOGENESIS IMPERFECTA (GOLDEN RETRIEVER TYPE)

Result : **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

Gene : Collagen type I alpha 1 chain (COL1A1) Chromosome 9

Variant Detected : Base Substitutionc.1276G>Cp.Gly381Ala

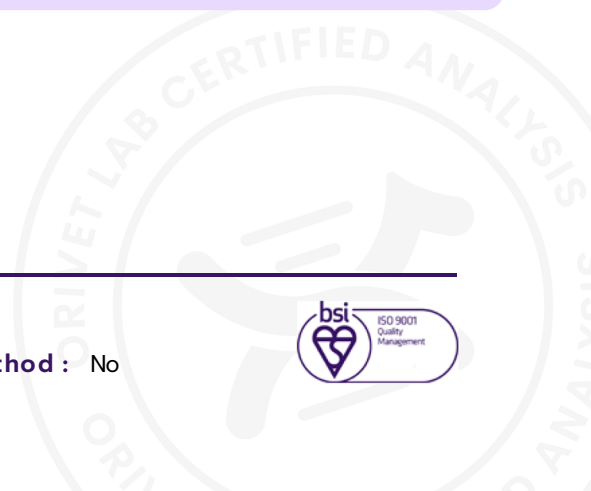
We have scanned the DNA and the genotype of this animal is NORMAL - no presence of the disease associated variant (mutation) has been detected. This result may also be referred to as NORMAL, "-/-" or "wild type (WT)" or "homozygous negative". The animal is clear of the disease and will not pass on the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

Owner's Name : Amanda Broderick

Pet Name : Merlin

Microchip Number 985113004247345

Approved Collection Method : No







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Sample with Lab ID Number 24A106350 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]**<sup>1</sup>

**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.

**Test Reported :** SKELETAL DYSPLASIA 2 (MILD DISPROPORTIONATE DWARFISM)

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** Collagen alpha-2(XI) chain gene (COL11A2) on chromosome 12

**Variant Detected :** Base Substitutionc.143G>Cp.Arg48Pro

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.

**Test Reported :** VON WILLEBRAND'S DISEASE TYPE I

**Result :** **NEGATIVE / CLEAR [NO VARIANT DETECTED]**<sup>1</sup>

**Gene :** VWF

**Variant Detected :** c.7437G>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.

**Owner's Name :** Amanda Broderick

**Pet Name :** Merlin

**Microchip Number** 985113004247345

**Approved Collection Method :** No





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Sample with Lab ID Number 24A106350 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 - HOMOZYGOUS FOR NON-EXTENSION [WHITE/YELLOW/APRICOT/WHEATEN]<sup>1</sup>

**Gene :** MC1R

**Variant Detected :** Em (point mutation) > E (wild type) > e (point mutation) chr5:63694334-63694334: C>T

2 copies of red/yellow are present referred to as "non-extension". Dog's coat is entirely phaeomelanin based ie. red/yellow/cream/apricot/white/wheaten. Please note in some breeds an "ee" phenotype can often Colours can be cream to white rather than yellow to red. Shades can vary between littermates.

**Test Reported :** EM (MC1R) LOCUS - MELANISTIC MASK

**Result :** E<sup>n</sup>/E<sup>n</sup> - NO MELANISTIC MASK (E<sup>n</sup>) EXTENSION ALLELE<sup>1</sup>

**Gene :** MC1R

**Variant Detected :** Base Substitution G>A

Dog tested negative for the melanistic mask allele. The dog will not have a black mask, and cannot pass a copy on to any offspring..

**Test Reported :** I PHEOMELANIN LOCUS COLOUR INTENSITY

**Result :** i/i- TWO COPIES OF THE MFSD12 INTENSITY ALLELE (LIKELY TO SHOW EXTREME DILUTION)<sup>1</sup>

**Gene :** MFSD12

**Variant Detected :** c.151C>T (p.Arq51Cys)

This variant is associated with the dilution of phaeomelanin which is involved in the cream/white/apricot color in dogs. Degree of intensity (dilution) will vary within and between breeds.

**Owner's Name :** Amanda Broderick

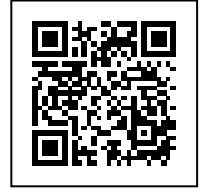
**Pet Name :** Merlin

**Microchip Number** 985113004247345

**Approved Collection Method :** No



## Genetic Comprehensive Report



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Sample with Lab ID Number 24A106350 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

**Test Reported :** BROWN DELETION = BD

**Result :** **B<sup>d</sup>/B<sup>d</sup> - DOES NOT CARRY BROWN/RED/LIVER or CHOCOLATE [DELETION]**<sup>1</sup>

**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.

**Test Reported :** BROWN STOP CODON = BS

**Result :** **B<sup>s</sup>/B<sup>s</sup> - DOES NOT CARRY BROWN/RED/LIVER or CHOCOLATE [STOP CODON]**<sup>1</sup>

**Gene :** TYRP1

**Variant Detected :** Point Mutation

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

**Test Reported :** BROWN INSERTION = BC

**Result :** **B<sup>c</sup>/B<sup>c</sup> - DOES NOT CARRY BROWN/RED/LIVER or CHOCOLATE [INSERTION]**<sup>1</sup>

**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.

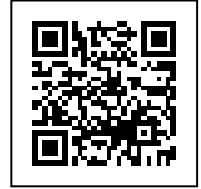
**Owner's Name :** Amanda Broderick

**Pet Name :** Merlin

**Microchip Number** 985113004247345

**Approved Collection Method :** No





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## Genetic Comprehensive Report

Sample with Lab ID Number 24A106350 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported

**Test Reported :** BROWN TYRP1 [LANCASHIRE HEELER TYPE] = BL

**Result :** B<sup>L</sup>/B<sup>L</sup> - DOES NOT CARRY BROWN/LIVER [TYRP1]<sup>1</sup>

**Gene :**

**Variant Detected :**

**Test Reported :** D (DILUTE) LOCUS

**Result :** D/D - NO COPY OF MLPH-D ALLELE (DILUTE) - PIGMENT IS NORMAL<sup>1</sup>

**Gene :** MLPH

**Variant Detected :** Base Substitution

Full colour, no dilute gene present. The D allele modifies the Melanophillin (MLPH) gene. This animal cannot produce "dilute" offspring. 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.

**Test Reported :** K LOCUS (DOMINANT BLACK)

**Result :** K/K - DOMINANT BLACK - SOLID [WILL NOT BE BRINDLED or EXPRESS AGOUTI]<sup>1</sup>

**Gene :** CBD103

**Variant Detected :** Deletion of GGG

Two copies of dominant black (K) are present. No brindle/red or fawn offspring will be produced. Will not express Agouti phenotype. This can also be referred to as KB. In some breeds the K locus is fixed so all dogs will be KK. This (the K Locus) can be modified by other genes eg .liver, dilute, greying or merle. Red can only be added through the e locus.

**Owner's Name :** Amanda Broderick

**Pet Name :** Merlin

**Microchip Number :** 985113004247345

**Approved Collection Method :** No





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Sample with Lab ID Number 24A106350 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 :**  $a^t/a$  - TRI COLOUR / TAN POINTS CARRIES SOLID COLOUR/BICOLOUR<sup>1</sup>

**Gene :** ASIP

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

Dog has black & tan and carries recessive black. Bi factored/white factored. Tan points include tan tips over the eyes, tan on the side of the muzzle, tan patches on the chest & tan on the legs. In some breeds white markings may "over ride" the tan markings known as tri. Please note that any genes on the "A" series will only be expressed if the K locus is kk, kkbr or kbrkbr.

**Test Reported :** SHEDDING (MC5R)

**Result :**

shd/shd [HIGH 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 levels 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.

**Owner's Name :** Amanda Broderick

**Pet Name :** Merlin

**Microchip Number** 985113004247345

**Approved Collection Method :** No



# Glossary of Genetic Terms (Results)



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## **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**

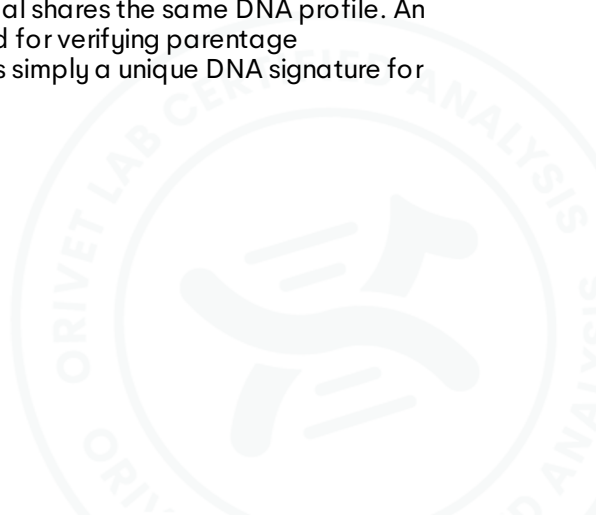
Insufficient information has been provided to provide a result for this test. Sire and Dam information and/or sample may be required. This result is mostly associated with tests that have a patent/license and therefore certain restrictions apply. Please contact the laboratory to discuss.

## **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)



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## **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**

PENDING

## **TRAIT (PHENOTYPE)**

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

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](mailto:admin@orivet.com) and we will be happy to work with you to answer any relevant questions.

