

Ivy
Registration: N/A
Breed: Munchkin Longhair

Sample ID: FRGLNSM
Test Date: 6/15/2022
Optimal Selection - Feline

DNA Test Report

Owner Info

First Name

Tim

Last Name

Cramer

Pet Info

Registered Name

Ivy

Date of Birth

1/27/2022

Nickname (Call Name)

Ivy

Sample ID

FRGLNSM

Sex

Female

Registration

N/A

Country of Origin

N/A

Microchip ID

N/A

Owner Reported Breed

Munchkin Longhair

Tattoo ID

N/A

DNA Test Report

Genetic Diversity (Heterozygosity)

Ivy's Percentage of Heterozygosity

41%

Ivy's genome analysis shows higher than average genetic heterozygosity when compared with other single-breed cats.

Typical Range for Single-Breed Cats

26 - 38%

DNA Test Report

Health Conditions Known in This Breed

Genetic Condition	Gene	Risk Variant	Copies	Result
Progressive Retinal Atrophy (Discovered in the Abyssinian)	CEP290	T>G	0	Clear

Other Conditions Tested

Genetic Condition	Gene	Risk Variant	Copies	Result
Acute Intermittent Porphyria (Variant 1)	HMBS	Deletion	0	Clear
Acute Intermittent Porphyria (Variant 2)	HMBS	G>A	0	Clear
Acute Intermittent Porphyria (Variant 3)	HMBS	Insertion	0	Clear
Acute Intermittent Porphyria (Variant 4)	HMBS	Deletion	0	Clear
Acute Intermittent Porphyria (Variant 5)	HMBS	G>A	0	Clear
Autoimmune Lymphoproliferative Syndrome	FASL	Insertion	0	Clear
Burmese Head Defect (Discovered in the Burmese)	ALX1	Deletion	0	Clear
Chediak-Higashi Syndrome (Discovered in the Persian)	LYST	Insertion	0	Clear
Congenital Adrenal Hyperplasia	CYP11B1	G>A	0	Clear
Congenital Erythropoietic Porphyria	UROS	G>A	0	Clear
Congenital Myasthenic Syndrome (Discovered in the Devon Rex and Sphynx)	COLQ	G>A	0	Clear
Cystinuria Type 1A	SCL3A1	C>T	0	Clear
Cystinuria Type B (Variant 1)	SCL7A9	C>T	0	Clear
Cystinuria Type B (Variant 2)	SCL7A9	G>A	0	Clear
Cystinuria Type B (Variant 3)	SCL7A9	T>A	0	Clear
Dihydropyrimidinase Deficiency	DPYS	G>A	0	Clear
Earfold and Osteochondrodysplasia (Discovered in the Scottish Fold)	TRPV4	G>T	0	Clear
Factor XII Deficiency (Variant 1)	F12	Deletion	0	Clear
Factor XII Deficiency (Variant 2)	F12	Deletion	0	Clear

DNA Test Report

Other Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Familial Episodic Hypokalemic Polymyopathy (Discovered in the Burmese)	WNK4	C>T	0	Clear
Glutaric Aciduria Type II	ETFDH	T>G	0	Clear
Glycogen Storage Disease (Discovered in the Norwegian Forest Cat)	GBE1	Insertion	0	Clear
GM1 Gangliosidosis	GLB1	G>C	0	Clear
GM2 Gangliosidosis	GM2A	Deletion	0	Clear
GM2 Gangliosidosis Type II (Discovered in Domestic Shorthair cats)	HEXB	Insertion	0	Clear
GM2 Gangliosidosis Type II (Discovered in Japanese domestic cats)	HEXB	C>T	0	Clear
GM2 Gangliosidosis Type II (Discovered in the Burmese)	HEXB	O>O	0	Clear
Hemophilia B (Variant 1)	F9	C>T	0	Clear
Hemophilia B (Variant 2)	F9	G>A	0	Clear
Hyperoxaluria Type II	GRHPR	G>A	0	Clear
Hypertrophic Cardiomyopathy (Discovered in the Maine Coon)	MYBPC	G>C	0	Clear
Hypertrophic Cardiomyopathy (Discovered in the Ragdoll)	MYBPC	C>T	0	Clear
Hypotrichosis (Discovered in the Birman)	FOXN1	Deletion	0	Clear
Lipoprotein Lipase Deficiency	LPL	G>A	0	Clear
MDR1 Medication Sensitivity	ABCB1	Deletion	0	Clear
Mucopolysaccharidosis Type I	IDUA	Deletion	0	Clear
Mucopolysaccharidosis Type VI	ARSB	T>C	0	Clear
Mucopolysaccharidosis Type VI Modifier	ARSB	G>A	0	Clear
Mucopolysaccharidosis Type VII (Variant 1)	GUSB	G>A	0	Clear
Mucopolysaccharidosis Type VII (Variant 2)	USB	C>T	0	Clear
Myotonia Congenita	CLCN1	G>T	0	Clear

DNA Test Report

Other Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Polycystic Kidney Disease (PKD)	PKD1	C>A	0	Clear
Progressive Retinal Atrophy (Discovered in the Bengal)	KIF3B	G>A	0	Clear
Progressive Retinal Atrophy (Discovered in the Persian)	AIPL1	C>T	0	Clear
Pyruvate Kinase Deficiency	PKLR	G>A	0	Clear
Sphingomyelinosis (Variant 1)	NPC1	G>C	0	Clear
Sphingomyelinosis (Variant 2)	NPC2	G>A	0	Clear
Spinal Muscular Atrophy (Discovered in the Maine Coon)	LIX1	Deletion	0	Clear
Vitamin D-Dependent Rickets	CYP27B1	G>T	0	Clear

DNA Test Report

Blood Type

Blood Type

B
(Rare)

Genotype

b/b

Transfusion Risk

High

Ivy has a less common blood type. She can only be transfused with Type B blood.

Breeding Risk

High

If Ivy's kittens are blood type A or AB, they must be foster nursed or bottle fed for the first 24 hours after birth.

Variant Tested

Description

Copies

b variant 1

(Common b variant)

1

b variant 2

(Discovered in Turkish breeds)

1

b variant 3

(Discovered in Ragdolls)

0

c variant - Causes AB Blood Type

(Discovered in Ragdolls)

0

DNA Test Report

Coat Color

Genetic Trait	Gene	Variant	Copies	Result
Charcoal (Discovered in the Bengal)	ASIP	A ^{Pb}	0	No effect
Solid Color	ASIP	a	2	Solid color hairs likely
Gloving (Discovered in the Birman)	KIT	w ^g	1	No effect
Partial and Full White	KIT	W or w ^s	1	Partly or fully white coat likely
Amber (Discovered in the Norwegian Forest Cat)	MC1R	e	0	No effect
Russet (Discovered in the Burmese)	MC1R	e ^r	0	No effect
Dilution	MLPH	d	2	Lightened coat color likely
Albinism (Discovered in Oriental breeds)	TYR	c ^a	0	No effect
Colorpoint (Discovered in the Burmese)	TYR	c ^b	0	No effect
Colorpoint (Discovered in the Siamese)	TYR	c ^s	0	No effect
Mocha (Discovered in the Burmese)	TYR	c ^m	0	No effect
Chocolate	TYRP	b	1	No effect
Cinnamon	TYRP	b ^l	0	No effect

Coat Type

Genetic Trait	Gene	Variant	Copies	Result
Long Hair (Discovered in many breeds)	FGF5	M4	2	Long coat likely
Long Hair (Discovered in the Norwegian Forest Cat)	FGF5	M2	0	No effect
Long Hair (Discovered in the Ragdoll and Maine Coon)	FGF5	M3	0	No effect
Long Hair (Discovered in the Ragdoll)	FGF5	M1	0	No effect
Lykoi Coat (Variant 1)	HR	hr ^{Ca}	0	No effect
Lykoi Coat (Variant 2)	HR	hr ^{VA}	0	No effect

DNA Test Report

Coat Type (continued)

Genetic Trait	Gene	Variant	Copies	Result
Hairlessness (Discovered in the Sphynx)	KRT71	re ^{hr}	0	No effect
Rexing (Discovered in the Devon Rex)	KRT71	re ^{dr}	0	No effect
Rexing (Discovered in the Cornish Rex and German Rex)	LPAR6	r	0	No effect
Glitter	Pending	gl	0	No effect

Tail Length

Genetic Trait	Gene	Variant	Copies	Result
Short Tail (Variant 3)	HES7	jb	0	No effect
Short Tail (Variant 1)	T	C1199del	0	No effect
Short Tail (Variant 2)	T	T988del	0	No effect

Extra Toes

Genetic Trait	Gene	Variant	Copies	Result
Polydactyly (Variant 1)	LIMBR1	HW	0	No effect
Polydactyly (Variant 2)	LIMBR1	UK1	0	No effect
Polydactyly (Variant 3)	LIMBR1	UK2	0	No effect