Kima

WISDOM PANEL™

Kit type: Complete

ID kit: CMHLMFL
Test date: 2023-06-06

Kima's Profile

Pet information

Registered name
Kima

Date of birth
2023-04-06

Sex
F

Spayed
No

Top breeds

100% Bengal

Blood type summary

Blood type
Type A (most common)

Transfusion risk
⚠ Moderate

Breeding risk
Low

Health summary

At Risk 0 conditions

Carrier 1 condition
- Factor XII Deficiency (Variant 2)

Clear 48 conditions

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Breed ancestry

Kima appears to be 100% Bengal.

Asian

100 % Bengal

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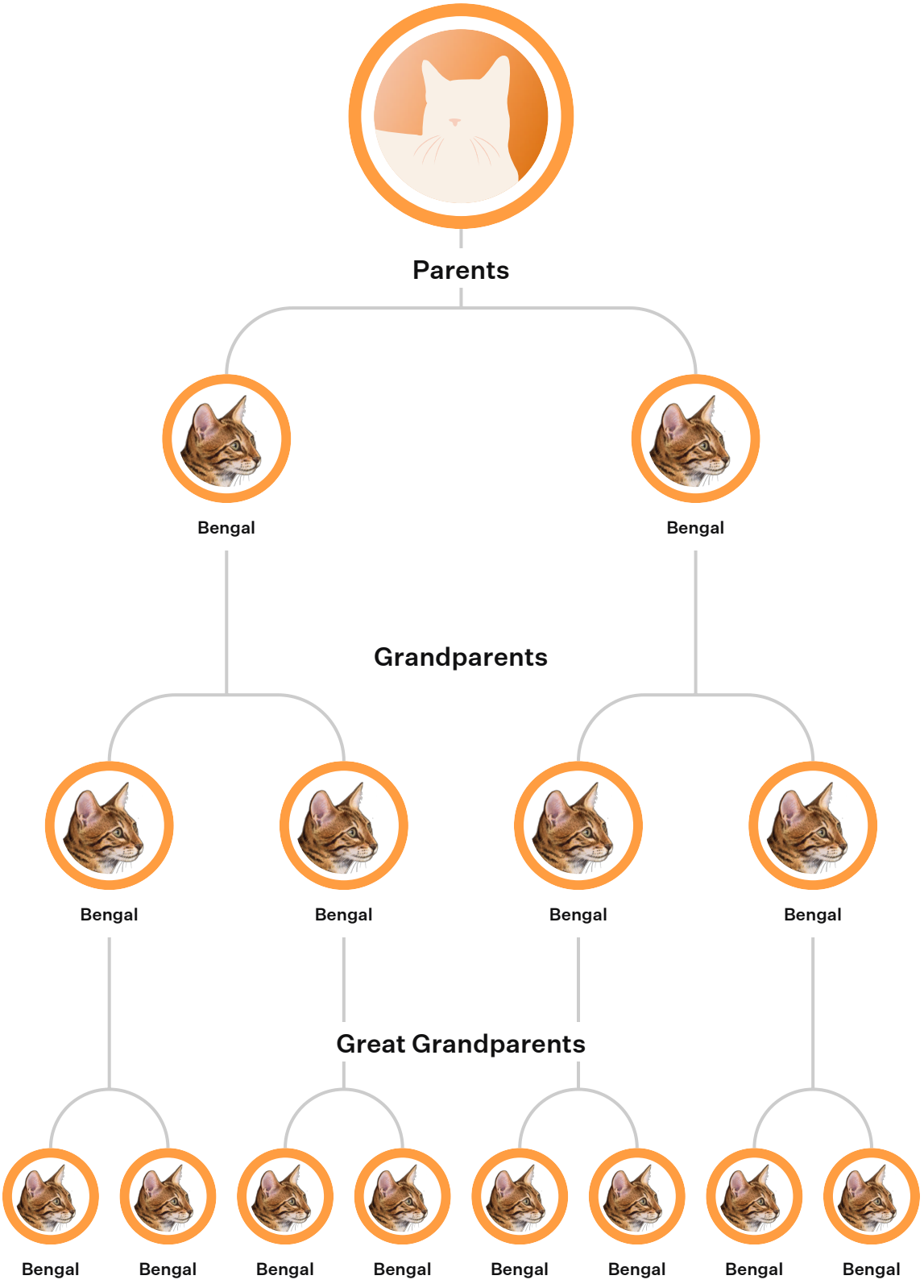
Family Tree



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Genetic Diversity

Heterozygosity

Kima's Percentage of Heterozygosity

31%

Kima's genome analysis shows an average level of genetic heterozygosity when compared with other Bengals.

Typical Range for Bengals

31% - 36%

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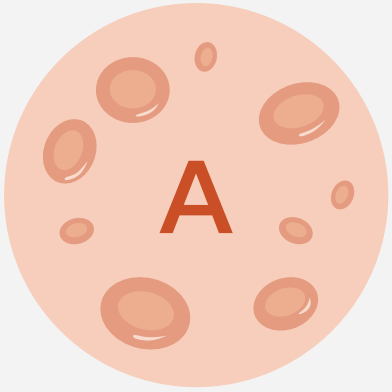

Blood type
Type A (Most common)

Genotype*
A/A

Transfusion risk
⚠ Moderate

Kima has the most common blood type. She can be transfused with Type A blood.

Breeding risk
Low

If breeding, Kima has a low risk of blood type incompatibility with nursing kittens.

Blood variants tested*

Variant Tested	Description	Copies
b variant 1	(Common b variant)	0
b variant 2	(Discovered in Turkish breeds)	0
b variant 3	(Discovered in Ragdolls)	0
c variant - Causes AB Blood Type	(Discovered in Ragdolls)	0

*This test identifies three known ‘b’ variants and one known ‘c’ variant in the CMAH gene when determining a cat’s genetic blood type. Blood Type A is inferred in reporting when less than two genetic blood variants are detected.

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Summary of health conditions

Key Findings

We detected 1 genetic condition in Kima's DNA.

0	1	48
At Risk	Carrier	Clear

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
Factor XII Deficiency (Variant 2)	F12	Deletion	1	ARa	Carrier

What this means for Kima

Carrier **Factor XII Deficiency (Variant 2)**

Two copies of the Factor XII Deficiency (Variant 2) variant are needed for a cat to be affected by this condition, so Kima should not show signs due to this variant. Please note, a cat having 1 copy of Factor XII Deficiency (Variant 1) and 1 copy of Factor XII Deficiency (Variant 2) will not cause Factor XII Deficiency. However, similar clinical signs could develop due to a different genetic or clinical cause.

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Health conditions tested

At-risk and carrier conditions (1)

Factor XII Deficiency (Variant 2)	Gene	Risk Variant	Copies	Inheritance	Result
	F12	Deletion	1	ARa	Carrier

What is it

Factor XII Deficiency, also known as Hageman trait, is an asymptomatic blood factor deficiency. While it does not cause an abnormal tendency to bleed, it can be observed as prolonged blood clotting times during certain laboratory screening tests.

What it means

Two copies of the Factor XII Deficiency (Variant 2) variant are needed for a cat to be affected by this condition, so Kima should not show signs due to this variant. Please note, a cat having 1 copy of Factor XII Deficiency (Variant 1) and 1 copy of Factor XII Deficiency (Variant 2) will not cause Factor XII Deficiency. However, similar clinical signs could develop due to a different genetic or clinical cause.

What to do

Here's how to care for a cat with Factor XII Deficiency

Partner with your veterinarian to make a plan regarding your cat's well-being, including any insights provided through genetic testing. If your pet is at risk or is showing signs of this disorder, then the first step is to speak with your veterinarian.

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Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
Acute Intermittent Porphyria (Variant 1)	HMBS	Deletion	0	AD	Clear
Acute Intermittent Porphyria (Variant 2)	HMBS	G>A	0	AD	Clear
Acute Intermittent Porphyria (Variant 3)	HMBS	Insertion	0	AD	Clear
Acute Intermittent Porphyria (Variant 4)	HMBS	Deletion	0	AD	Clear
Acute Intermittent Porphyria (Variant 5)	HMBS	G>A	0	AR	Clear
Autoimmune Lymphoproliferative Syndrome (Discovered in British Shorthair)	FASL	Insertion	0	AR	Clear
Burmese Head Defect (Discovered in the Burmese)	ALX1	Deletion	0	AD	Clear
Chediak-Higashi Syndrome (Discovered in the Persian)	LYST	Insertion	0	AR	Clear
Congenital Adrenal Hyperplasia	CYP11B1	G>A	0	AR	Clear
Congenital Erythropoietic Porphyria	UROS	G>A	0	AR	Clear
Congenital Myasthenic Syndrome (Discovered in the Devon Rex and Sphynx)	COLQ	G>A	0	AR	Clear
Cystinuria Type 1A	SCL3A1	C>T	0	AR	Clear
Cystinuria Type B (Variant 1)	SCL7A9	C>T	0	AR	Clear
Cystinuria Type B (Variant 2)	SCL7A9	G>A	0	AR	Clear
Cystinuria Type B (Variant 3)	SCL7A9	T>A	0	AR	Clear
Dihydropyrimidinase Deficiency	DPYS	G>A	0	AR	Clear
Earfold and Osteochondrodysplasia (Discovered in the Scottish Fold)	TRPV4	G>T	0	AD	Clear
Factor XII Deficiency (Variant 1)	F12	Deletion	0	ARa	Clear
Familial Episodic Hypokalemic Polymyopathy (Discovered in the Burmese)	WNK4	C>T	0	AR	Clear
Glutaric Aciduria Type II	ETFDH	T>G	0	AR	Clear

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Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
Glycogen Storage Disease (Discovered in the Norwegian Forest Cat)	GBE1	Insertion	0	AR	Clear
GM1 Gangliosidosis	GLB1	G>C	0	AR	Clear
GM2 Gangliosidosis	GM2A	Deletion	0	AR	Clear
GM2 Gangliosidosis Type II (Discovered in Domestic Shorthair cats)	HEXB	Insertion	0	AR	Clear
GM2 Gangliosidosis Type II (Discovered in Japanese domestic cats)	HEXB	C>T	0	AR	Clear
GM2 Gangliosidosis Type II (Discovered in the Burmese)	HEXB	Deletion	0	AR	Clear
Hemophilia B (Variant 1)	F9	C>T	0	XR	Clear
Hemophilia B (Variant 2)	F9	G>A	0	XR	Clear
Hyperoxaluria Type II	GRHPR	G>A	0	AR	Clear
Hypertrophic Cardiomyopathy (Discovered in the Maine Coon)	MYBPC	G>C	0	AR	Clear
Hypertrophic Cardiomyopathy (Discovered in the Ragdoll)	MYBPC	C>T	0	AD	Clear
Hypotrichosis (Discovered in the Birman)	FOXN1	Deletion	0	AR	Clear
Lipoprotein Lipase Deficiency	LPL	G>A	0	AR	Clear
MDR1 Medication Sensitivity	ABCB1	Deletion	0	AR	Clear
Mucopolysaccharidosis Type I	IDUA	Deletion	0	AR	Clear
Mucopolysaccharidosis Type VI	ARSB	T>C	0	AR	Clear
Mucopolysaccharidosis Type VI Modifier	ARSB	G>A	0	MO	Clear
Mucopolysaccharidosis Type VII (Variant 1)	GUSB	G>A	0	AR	Clear
Mucopolysaccharidosis Type VII (Variant 2)	USB	C>T	0	AR	Clear
Myotonia Congenita	CLCN1	G>T	0	AR	Clear
Polycystic Kidney Disease (PKD)	PKD1	C>A	0	AD	Clear

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Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
Progressive Retinal Atrophy (Discovered in the Abyssinian)	CEP290	T>G	0	AR	Clear
Progressive Retinal Atrophy (Discovered in the Bengal)	KIF3B	G>A	0	AR	Clear
Progressive Retinal Atrophy (Discovered in the Persian)	AIPL1	C>T	0	AR	Clear
Pyruvate Kinase Deficiency	PKLR	G>A	0	AR	Clear
Sphingomyelinosis (Variant 1)	NPC1	G>C	0	AR	Clear
Sphingomyelinosis (Variant 2)	NPC2	G>A	0	AR	Clear
Vitamin D-Dependent Rickets	CYP27B1	G>T	0	AR	Clear

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Traits

Coat Color

	Gene	Variant	Copies	Result
Charcoal (Discovered in the Bengal)	ASIP	A^{Pb}	0	No effect
Solid Color	ASIP	a	0	Banded hairs, tabby patterns likely
Partial and Full White	KIT	W or w^{s}	0	No effect
Amber (Discovered in the Norwegian Forest Cat)	MC1R	e	0	No effect
Russet (Discovered in the Burmese)	MC1R	e^{r}	0	No effect
Dilution Two copies of the Dilution variant are required to have a lightening effect on the coat.	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) Two copies of this variant result in a colorpoint pattern, although this can be blocked by other variants. Cats with one copy of the Colorpoint (Discovered in the Burmese) variant and one copy of the Colorpoint (Discovered in the Siamese) variant will show a darker base coat color and less contrasting colorpoint pattern than cats with two copies of the Colorpoint (Discovered in the Siamese) variant.	TYR	c^{s}	2	Siamese colorpoint pattern likely
Mocha (Discovered in the Burmese)	TYR	c^{m}	0	No effect
Chocolate	TYRP	b	0	No effect
Cinnamon	TYRP	b^{l}	0	No effect

Coat Type

	Gene	Variant	Copies	Result
Long Hair (Discovered in many breeds)	FGF5	M4	0	No effect
Long Hair (Discovered in the Norwegian Forest Cat)	FGF5	M2	0	No effect

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Coat Type

	Gene	Variant	Copies	Result
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
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 Two copies of the Glitter variant are needed for the glitter coat to be seen.	Pending	gl	2	Glitter coat likely

Tail Length

	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

	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

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Glossary of genetic terms

Test result definitions

At Risk: Based on the disorder's mode of inheritance, the cat inherited a number of genetic variant(s) which increases the cat's risk of being diagnosed with the associated disorder.

Carrier: The cat inherited one copy of a genetic variant when two copies are usually necessary to increase the cat's risk of being diagnosed with the associated disorder. While carriers are usually not at risk of clinical expression of the disorder, carriers of some complex variants may be associated with a low risk of developing the disorder.

Notable: Inheriting two copies of the genetic variant is noteworthy for specific aspects of health and breeding of the cat, but the cat should otherwise not suffer disease due to this genetic cause when in absence of other genetic variants.

Clear: The cat did not inherit the genetic variant(s) associated with the disorder and will not be at elevated risk of being diagnosed with the disorder due to this genotype. However, similar clinical signs could develop from different genetic or clinical causes.

Inconclusive: An inconclusive result indicates a confident call could not be made based on the data for that genetic variant. Health testing is performed in replicates, and on occasion the outcomes do not agree. This may occur due to an unusual sequence of DNA in the region tested, multiple cell genotypes present due to chimerism or acquired mutations, or due to quality of the DNA sample.

Inheritance mode definitions

Autosomal Recessive (AR): For autosomal recessive disorders, cats with two copies of the genetic variant are at risk of developing the associated disorder. Cats with one copy of the variant are considered carriers and are usually not at risk of developing the disorder. However, carriers of some complex variants grouped in this category may be associated with a low risk of developing the disorder. Cats with one or two copies may pass the disorder-associated variant to their kittens if bred.

Autosomal Recessive, asymptomatic (ARa): For autosomal recessive, asymptomatic disorders, cats with two copies of the variant can exhibit certain aspects of the variant-associated disorder but otherwise, they should not suffer clinical disease as typically expected with autosomal recessive disorders. Cats with one copy of the variant are called carriers and should not exhibit any aspect of the disorder. However, cats with one or two copies may pass the disorder-associated variant to their kittens if bred.

Autosomal Dominant (AD): For autosomal dominant disorders, cats with one or two copies of the genetic variant are at risk of developing the associated disorder. Inheriting two copies of the variant may increase the risk of development of the disorder or cause the condition to be more severe. These cats may pass the disorder-associated variant to their kittens if bred.

X-linked Recessive (XR): For X-linked recessive disorders, the genetic variant is found on the X chromosome. Female cats must inherit two copies of the variant to be at risk of developing the condition, whereas male cats only need one copy to be at risk. Males and females with any copies of the variant may pass the disorder-associated variant to their kittens if bred.

Modifier (MO): Genetic modifiers do not cause disease on their own but can cause disease or change the onset or severity of a disorder when combined with another disorder-associated variant. For some modifier variants only one copy is required to cause an effect, for others two copies are required. Please refer to the associated variant's breeder recommendations regarding safe breeding practices for each modifier variant.