

Gustav Skazochniy Mir  
Registration: N/A  
Breed: Maine Coon

Sample ID: FTNXQPK  
Test Date: 6/1/2021  
Optimal Selection - Feline

# DNA Test Report

## Owner Info

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**First Name**

Traci

**Last Name**

Heppner

## Pet Info

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**Registered Name**

Gustav Skazochniy Mir

**Date of Birth**

11/11/2020

**Nickname (Call Name)**

Knut

**Sample ID**

FTNXQPK

**Sex**

Male

**Registration**

N/A

**Country of Origin**

RU

**Microchip ID**

N/A

**Owner Reported Breed**

Maine Coon

**Tattoo ID**

N/A

# DNA Test Report

## Genetic Diversity (Heterozygosity)

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**Knut's Percentage of Heterozygosity**

31%

This may make him more susceptible to genetic health complications when compared with other Maine Coons.

**Typical Range for Maine Coons**

32 - 37%

# DNA Test Report

## Health Conditions Known in This Breed

| Genetic Condition  | Gene   | Risk Variant | Copies | Result |
|--|--------|--------------|--------|--------|
| Cystinuria Type B (Variant 3)                              | SCL7A9 | T>A          | 0      | Clear  |
| Factor XII Deficiency (Variant 1)                          | F12    | Deletion     | 0      | Clear  |
| Factor XII Deficiency (Variant 2)                          | F12    | Deletion     | 0      | Clear  |
| Hypertrophic Cardiomyopathy (Discovered in the Maine Coon) | MYBPC  | G>C          | 0      | Clear  |
| MDR1 Medication Sensitivity                                | ABCB1  | Deletion     | 0      | Clear  |
| Polycystic Kidney Disease (PKD)                            | PKD1   | C>A          | 0      | Clear  |
| Pyruvate Kinase Deficiency                                 | PKLR   | G>A          | 0      | Clear  |
| Spinal Muscular Atrophy (Discovered in the Maine Coon)     | LIX1   | Deletion     | 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  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition  | Gene   | Risk Variant | Copies | Result |
|--|--------|--------------|--------|--------|
| Cystinuria Type B (Variant 1)  | SCL7A9 | C>T          | 0      | Clear  |
| Cystinuria Type B (Variant 2)  | SCL7A9 | G>A          | 0      | Clear  |
| Dihydropyrimidinase Deficiency   | DPYS   | G>A          | 0      | Clear  |
| Earfold and Osteochondrodysplasia (Discovered in the Scottish Fold)    | TRPV4  | G>T          | 0      | Clear  |
| 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 Ragdoll)                | MYBPC  | C>T          | 0      | Clear  |
| Hypotrichosis (Discovered in the Birman)                               | FOXN1  | Deletion     | 0      | Clear  |
| Lipoprotein Lipase Deficiency  | LPL    | G>A          | 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  |

# DNA Test Report

## Other Conditions Tested (continued)

| Genetic Condition  | Gene    | Risk Variant | Copies | Result |
|--|---------|--------------|--------|--------|
| Mucopolysaccharidosis Type VII (Variant 2)                 | USB     | C>T          | 0      | Clear  |
| Myotonia Congenita   | CLCN1   | G>T          | 0      | Clear  |
| Progressive Retinal Atrophy (Discovered in the Abyssinian) | CEP290  | T>G          | 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  |
| Sphingomyelinosis (Variant 1)                              | NPC1    | G>C          | 0      | Clear  |
| Sphingomyelinosis (Variant 2)                              | NPC2    | G>A          | 0      | Clear  |
| Vitamin D-Dependent Rickets                                | CYP27B1 | G>T          | 0      | Clear  |

# DNA Test Report

## Blood Type

### Blood Type

A  
(Most common)

### Genotype

A/A

### Transfusion Risk

Moderate

Knut has the most common blood type. He can be transfused with Type A blood.

### Breeding Risk

Low

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

### 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

# DNA Test Report

## Coat Color

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

## Coat Type

| Genetic Trait  | Gene | Variant          | Copies | Result                                       |
|--|------|------------------|--------|--|
| Long Hair (Discovered in many breeds)                | FGF5 | M4               | 1      | <b>Long coat possible, short coat likely</b> |
| Long Hair (Discovered in the Norwegian Forest Cat)   | FGF5 | M2               | 0      | No effect                                    |
| Long Hair (Discovered in the Ragdoll and Maine Coon) | FGF5 | M3               | 1      | <b>Long coat possible, short coat likely</b> |
| Long Hair (Discovered in the Ragdoll)                | FGF5 | M1               | 0      | No effect                                    |
| Lykoi Coat (Variant 1)                               | HR   | hr <sup>Ca</sup> | 0      | No effect                                    |
| Lykoi Coat (Variant 2)                               | HR   | hr <sup>VA</sup> | 0      | No effect                                    |

# DNA Test Report

## Coat Type (continued)

| Genetic Trait   | Gene    | Variant          | Copies | Result    |
|---|---------|------------------|--------|-----------|
| Hairlessness (Discovered in the Sphynx)               | KRT71   | re <sup>hr</sup> | 0      | No effect |
| Rexing (Discovered in the Devon Rex)                  | KRT71   | re <sup>dr</sup> | 0      | No effect |
| Rexing (Discovered in the Cornish Rex and German Rex) | LPAR6   | r                | 0      | No effect |
| Glitter   | Pending | gl               | 0      | No effect |

## Body Features

| Genetic Trait           | Gene   | Variant  | Copies | Result    |
|-------------------------|--------|----------|--------|-----------|
| Short Tail (Variant 3)  | HES7   | jb       | 0      | No effect |
| Polydactyly (Variant 1) | LIMBR1 | HW       | 0      | No effect |
| Polydactyly (Variant 2) | LIMBR1 | UK1      | 0      | No effect |
| Polydactyly (Variant 3) | LIMBR1 | UK2      | 0      | No effect |
| Short Tail (Variant 1)  | T      | C1199del | 0      | No effect |
| Short Tail (Variant 2)  | T      | T988del  | 0      | No effect |