



# Bastu - ALT (Swab)'s genetic report



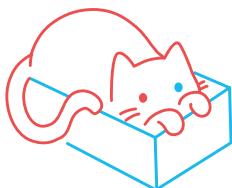
Version 2.4

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Learn whether your cat is at risk for certain genetic disorders.



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This page includes a brief background on the pathway to cat evolution, as well as an overview of what we provide in the breed section of this report to help you interpret your cat's results.



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We tested your cat's DNA for 39 mutations associated with various diseases. Your results will continue to update as more diseases are added for a total of 17 different tests.

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We've included some actionable insights to help optimize your kitty's health and well-being.

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## Appendix

This section includes a detailed breakdown of your cat's similarity to all breeds in our database.

# Summary



Name

Bastu - ALT (Swab)

Parent

Charles Warden

Gender

Female

Breed group

Western

Date of birth

5/1/2011

Health markers

**Carrier**

0 mutation(s)  
found

**At Risk**

0 mutation(s)  
found

**At High Risk**

0 mutation(s)  
found

## Breed Groups

The following shows the breed group composition of your cat's genome. The breeds shown below each breed group represent the top breed most similar to your cat in each breed group.

● Western (39.2%)



Norwegian  
Forest Cat

● Eastern (12.7%)



Burmese

● Exotic (5.6%)



Bengal

● Persian (12.4%)



Persian

## Wildcats

The following ranks the most similar wildcats. We compare your cat's DNA to those of various wildcat samples and rank based on how many similarities your cat shares with different wildcats, big and small.



1. Cheetah



2. Cougar



3. Leopard



4. Tiger

# How to interpret feline breeds

**The road to less wild:** Simply put, our sweet fur-babies are still wild little beasts. The history of cat domestication is vastly different from the domestication of other companion or agricultural animals. Whereas dogs went through thousands of years of selective breeding for behavioral and physical traits, cats have largely remained similar to their wild ancestors. This is why our feline friends still have excellent hunting skills, feeding and grooming habits and the ability to pounce into action at any given moment.

**So, how exactly did cats become part of human life?** The pathway to domestication began as human agriculture flourished. The rodent population drastically increased with food storage. Cats played their welcomed role as nature's exterminator. Since cats chose to live with us, a systematic breeding program was never imposed on them for traits responsible for cohabitation. Our kitties are unique and in some sense, the only animals known to have domesticated themselves to live with us.

It wasn't until the 19th century that we were able to influence cat evolution by selectively breeding cats for mostly aesthetic traits. Due to this relatively short breeding process, the vast majority of modern cats are not the result of intentional breeding, nor have ancestors of a defined breed.

Unlike other dog or human ancestry tests, we cannot make the assumption that your cat was descended from a mixture of purebred lines since purebred cats are so new. However, using a large panel of purebred cats that we have sequenced, we can try to find parts of your cat's genome that are similar to a known cat breed.

We are thrilled to be celebrating the mutt, the mixed-breed kitty, the **polycat!** 95% of all cats in the world are mixed-breed mutts. This is all we knew about them until now. With genetic data, we can learn more about what makes each mixed-breed polycat unique! As we gather more purebred data and trait information, we will be able to start narrowing down the parts of the genome that are responsible for certain traits and thus will continue to explore what makes YOUR polycat unique!

Analysis of our reference panel of purebred cats allows us to divide cat breeds into four main groups: Western, Eastern, Persian, and Exotic.

Now let's talk about Bastu - ALT (Swab)! We sequenced Bastu - ALT (Swab)'s DNA, which we extracted from the sample you've submitted to us. This resulted in 3,488,515 DNA fragments sequenced, which represents 3,156,701 DNA bases that were sequenced. Using this data along with the latest cat genome (*felis\_catus\_9.0*), we analyzed genetic variants across 18 chromosomes to generate this report.

Bastu - ALT (Swab) is mostly similar to Western breeds based on the comparative genomic similarity to breeds belonging to the Western group. Within each of the four breed groups, we ranked the individual member breeds based on how similar your cat is to each breed.

## Western breeds include:

American Shorthair, Siberian, Maine Coon, Russian Blue, Norwegian Forest Cat, Abyssinian, and Ragdoll.

## Eastern breeds include:

Oriental Shorthair, Burmese, Birman, and Peterbald.

## Exotic breeds include:

Bengal (asian leopard x domestic), Savannah breeds (serval x domestic) and Egyptian Mau.

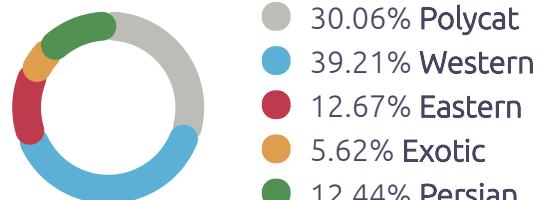
## Persian cats include:

Persian, British Shorthair, Exotic Shorthair, and Himalayan.

# Breed Groups

Our genetic analysis looks for regions on your cat's chromosomes that are most similar to individual/groups of purebred cats. These similar regions do not necessarily indicate purebred ancestry. As feline friends, we all know that cats have their own unique personalities and physical characteristics. So, the exciting part is that there are potential genomic locations that define certain breed traits. As we continue to add more purebred cats to our database, we can start narrowing down the specific genomic regions that define purebred cats and eventually their traits. Based on our growing cat database, we can divide breeds into four main categories: Western, Eastern, Exotic, Persian. Polycat (mixed breed) heritage is an equally important part of your kitty's uniqueness.

## Genomic composition of breed groups



# Breed List

The following breeds are categorized into four breed groups and used in our analysis of your cat. The breeds within each group are ranked from high to low similarity to your furry friend (e.g., number 1 is the breed that is most similar to your cat with each group).

## Western



1. Norwegian Forest Cat



2. Abyssinian



3. Maine Coon



4. Siberian



5. American Shorthair



6. Ragdoll



7. Russian Blue

## Eastern



1. Burmese



2. Oriental Shorthair



3. Peterbald



4. Birman

## Exotic



1. Bengal



2. Egyptian Mau



3. Savannah



4. Exotic Shorthair

## Persian



1. Persian



2. British Shorthair



3. Himalayan



4. Exotic Shorthair

# Norwegian Forest Cat



## Chromosome map

- Norwegian Forest Cat regions



**The western part of Bastu - ALT (Swab) is more similar to the Norwegian Forest Cat than 93.53% of all other cats in our database**

## Overview

The Norwegian Forest cat or the “mystic wildcat of the fairy tales” is a feline breed believed to be between 1000 to 2000 years old. This is the cat of the Vikings. This breed is so popular and beloved across Northern Europe that it has made frequent appearances in numerous Norwegian urban myths and folklore. These large, strong and sturdy cats are well protected in Europe's cold, brutal winters by an insulated, waterproof double coat, that comes in all possible colors and patterns except for chocolate, lilac, fawn and cinnamon. Norwegian Forest cats are easily distinguished by their large, almond-shaped eyes, triangle-shaped head and a straight profile from the brow ridge to the tip of the nose.

## Breed Origins

Originating in Norway, one theory has it that the breed's ancestors may be black and white shorthair cats brought from Great Britain and longhaired cats introduced by the Crusaders. Another theory claims that their ancestry lies with the Russian Siberian cat and the Turkish Angora. The breed was finally recognized and registered in Europe in the 1970s, and in the American Cat Fanciers' Association in 1994.

## Genetic Predisposition

Although generally strong and healthy, some health problems have been reported in the breed. Some published studies have recognized the Norwegian Forest cats, among several other breeds, to be at a higher risk for Diabetes mellitus, a metabolic disorder in which blood sugar levels remain high for long periods of time. In a 2007 study, a complex rearrangement in the glycogen branching enzyme (GBE1) was identified in this breed, causing a perinatal hypoglycemic collapse and a late-juvenile-onset neuromuscular degeneration in the glycogen storage disease type IV (Fyfea, 2007). The breed has also been known to suffer from hip dysplasia (Eldredge, 2003).

## Personality

Norwegian Forest cats are friendly, social and independent. They have a calm temperament and will usually get along well with children and other pets. While they highly appreciate the company of their favorite humans, they do so on their own terms. They can be lap cats, but tend to be very picky and fussy as to whose lap they sit in. These kitties love to explore, and their strong claws make them excellent climbers. A scratching post or a tall cat tree will go a long way entertaining these kitties.

# Burmese



The eastern part of Bastu - ALT (Swab) is more similar to the Burmese than 96.77% of all other cats in our database

## Overview

The Burmese is a compact and heavily built cat breed originating from Thailand. They have short, dense and glossy coats that come in a range of colors such as champagne, platinum and sable. This cat is known for its muscular, athletic and yet elegant appearance.

## Breed Origins

The Burmese cat was initially a hybrid of the Asian cat Burma (Myanmar cat) and the Siamese. However, the breed we know today originated in the United States during the 1930s. Geneticists believe that the Burmese shares a unique genetic trait with the Siamese - a mutation in tyrosinase (enzyme involved in the production of melanin). The mutated version of this enzyme is heat sensitive, and fails to work at normal body temperatures. It tends to activate only in cooler areas of the skin (< 91°F), which is why we see the cooler parts of the cat's body, such as the extremities, face and tip of the tail, expressing a darker pigmentation compared to the rest of the torso.

## Genetic Predisposition

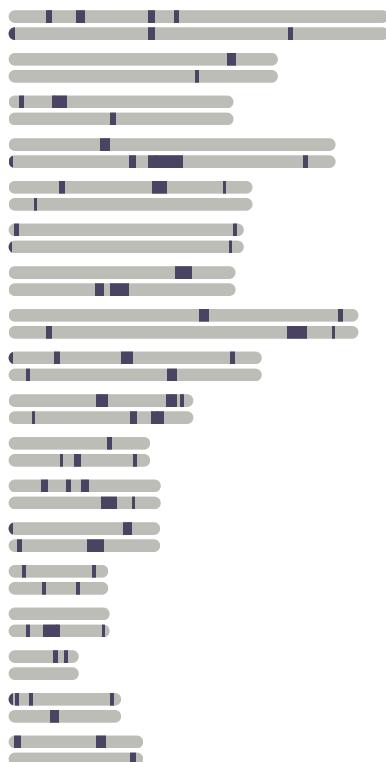
The Burmese is considered to be a fairly healthy and strong cat breed with an average lifespan of 10 to 17 years. However, some published studies have recognized the breed, among several others, to be at a higher risk for Diabetes mellitus, a metabolic disorder in which blood sugar levels remain high for long periods of time. In addition, Hypokalemia, a genetic disease characterized by low levels of potassium in blood plasma, has also been linked to the Burmese breed.

## Personality

The Burmese make excellent family pets due to their highly people-oriented nature. This breed is noted for having a dog-like loyal demeanor towards their favorite humans. They tend to form strong bonds with their owners and seem to genuinely enjoy being part of daily human activity. They are not considered to be an independent breed and tend to cling to their owners and suffer immensely if left alone for a long period of time.

## Chromosome map

- Burmese regions

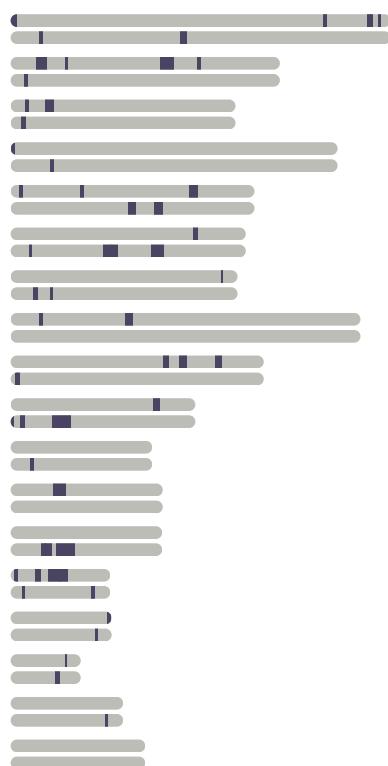


# Bengal



## Chromosome map

### ● Bengal regions



The exotic part of Bastu - ALT (Swab) is more similar to the Bengal than 80.31% of all other cats in our database

## Overview

Often referred to as the "Miniature Leopard" of the domestic cat breeds, the Bengal is a unique breed designed to resemble exotic wild cats such as leopards, ocelots, margays and clouded leopards. They are characterized by having a lean and muscular body, broad head, relatively short ears and a long, muscular neck. The coat pattern is spotted or marbled and can be any shade of orange-brown, light brown or silver. Sometimes the fur can have a sheen, giving the coat a shimmering appearance. The spots and rosettes are vivid, contrasted and at times multicolored.

## Breed Origins

Bengals were developed in California in 1963, as a result of selective breeding between the hybrids of the Asian leopard cat and domestic cat. The hybrids were backcrossed to domestic cats in order to create a healthy and friendly cat. A cat which expressed the vivid, contrasting coat markings of a leopard cat with the docile temperament of a domestic cat.

## Genetic Predisposition

Bengals are known to be affected by several genetic diseases, such as Bengal Progressive Retinal Atrophy (or PRA-b), a group of diseases characterized by progressive, bilateral retinal degeneration. Erythrocyte pyruvate kinase deficiency (PK-Def), an inherited metabolic disorder characterized by disrupted survival of the red blood cells, and hypertrophic cardiomyopathy (HCM), a disease that affects the heart muscle (myocardium). The exact cause for HCM in cats remains unknown, but it has been found to be inherited.

## Personality

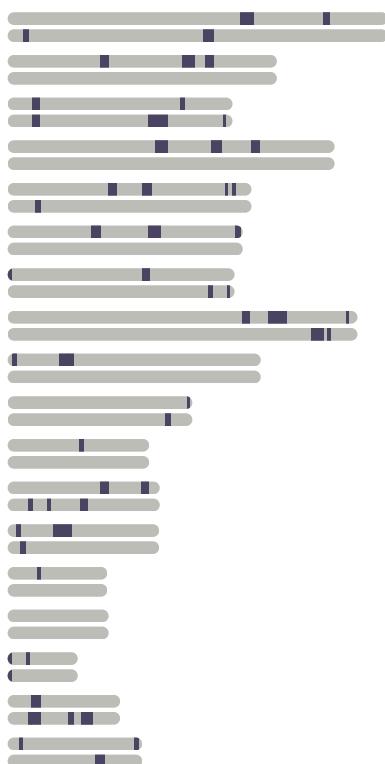
If you're looking for a cuddly cat that will purr and snuggle its days away in your lap – then a Bengal is not for you! These cats, although friendly and devoted companions, are exceptionally curious, energetic, agile and constantly on the move with confidence and flare. Bengals are considered to be highly intelligent and are known to naturally retrieve toys during a game of fetch. They are also one of the few cat breeds that are uncharacteristically fond of playing in water.

# Persian



## Chromosome map

● Persian regions



The persian part of Bastu - ALT (Swab) is more similar to the Persian than 92.61% of all other cats in our database

## Overview

The Persian cat is the glamor puss of the cat world. The Persian's exceptionally beautiful and graceful coat, chubby cheeks, expressive eyes and affectionate personality makes them one of the world's most popular feline breeds of all time. Today, this breed comes in two types: show and traditional. The show Persian is characterized by the breeds overly exaggerated features. The traditional Persian, or the "Doll Face" is essentially the original breed, without the development of these extreme features. Both types have rich, long and flowing coats that come in various colors and patterns.

## Breed Origins

Little is known about the history of this very old breed. The exact origin of this beloved kitty is mysterious, but legend has it that the breed was first introduced to Europe in the 1620s by Pietro Della Valle from Italy, as a souvenir from Persia (present day Iran). As the breed's popularity grew, these cats gradually came to be considered luxurious and precious cargo by Persian merchants. Initially, their breeding took place in Italy and France, but then quickly spread to the rest of Europe. They finally made their appearance in United States in the early 1900s.

## Genetic Predisposition

Persians are thought to be one of the breeds with the most health issues. Some of the most common inherited diseases Persians are at a high risk for are polycystic kidney disease (PKD), hypertrophic cardiomyopathy (HCM), progressive retinal atrophy (PRA) and feline lower urinary tract disease (FLUTD).

## Personality

Persians are placid, friendly, and affectionate. Surprisingly, these delightful creatures are not as active as most other feline breeds. They would much rather prefer to spend their time lounging in their favorite spot on the sofa. They don't utilize much space for activity, which is why they tend to do quite well in smaller living quarters.

# Your Health Marker Report

## Kitty Genetics One-On-One

Genotype is the portion of your cat's genome that encodes the physical expression (phenotype) of a particular trait, such as eye color, coat color or disease predisposition. Genes comprise the genotype. Every gene in your kitty's genome is present in two copies - one inherited from each parent. These two copies can be the same or different. If they are different, we say that the cat has two different alleles (gene variants) and is, therefore, heterozygous for this gene. On the contrary, if the two copies of the gene are the same, the cat is homozygous for the gene of interest.

When it comes to the phenotype, alleles can have different contributions. If the two gene alleles are the same, then they will both contribute to the phenotype equally. If the two alleles are different however, which allele will contribute to the phenotype depends on their relationship. Some alleles are dominant, meaning that they have the ability to "hide" other alleles and thus be the sole contributor to the phenotype. In contrast, the allele that is "hidden" in a heterozygous state is known as a recessive allele. A recessive allele can only contribute to the phenotype when your cat is homozygous for that allele, i.e., there is no dominant allele to hijack the phenotype expression.

## How Does It All Relate To Disease?

Genetic disorders are conditions that are present at birth or develop later in life and are caused by one or more genetic mutations. We tested your furry friend for genetic health markers associated with genetic disorders. Genetic health markers are mutated gene alleles associated with an increased likelihood of developing a particular genetic disorder. With the exception of hypertrophic cardiomyopathy (HCM), which has more complex genetics, the conditions included in this report have either a dominant or a recessive pattern of inheritance. This means that for diseases with a dominant inheritance pattern, having just one mutated gene allele will result in the cat developing the disease. Conversely, for diseases with a recessive inheritance pattern, the cat will only develop the disease if it has 2 mutated alleles. Having just one mutated recessive allele makes the cat a disease carrier, meaning that it will not develop the disease, but it can pass down the mutation to its kittens.

In this part of the report, you will see your kitty's results for various genetic markers associated with diseases. Not all disease may be available right away -- make sure to check your report often in the coming weeks as more reports and markers are added. 'Clear' status indicates that your cat tested negative for a particular genetic marker. 'Carrier' status means your cat has one copy of a recessive genetic marker and should only be a concern if you plan to breed your cat. 'At risk' and 'At high risk' status means that your cat has tested positive for a dominant allelic mutation or has two copies of a recessive allelic mutation. If you see one of these two result designations, contact your veterinarian.

Please note, Basepaws results should not replace evaluation and clinical diagnosis made by a veterinarian. We also want to point out that a 'Clear' result does not mean your cat is guaranteed to not develop the disease. It simply means your cat is negative for the mutation we tested. There may be environmental factors and other not yet known genetic mutations contributing to developing the disease. If there is a positive result, please make sure to notify your veterinarian.

# Health Markers

In this section, you will find a brief description for each of the genetic diseases you currently have results for. Each of these disease is represented by at least one known health marker. In addition to your cat's results, we have also included details on the genes and genetic mutations included in our test.

**IMPORTANT:** Not all health reports might be available initially, and more markers and results can be added over the coming weeks and even months! Stay close to your results and check often to see any new health markers and diseases added.

## Polycystic kidney disease

Polycystic kidney disease (PKD) is the most common genetic disease in cats. PKD is characterized by the formation of small fluid-filled cysts in the kidneys that lead to kidney failure.

Gene	Mutation	Result	
PKD1	C>A	Negative	Clear

## Cardiomyopathy, hypertrophic

Hypertrophic cardiomyopathy (HCM) is the most common feline heart disease characterized by tachycardia.

Gene	Mutation	Result	
MYPBC3	G>A	Negative	Clear
	*Frequent in Rag Doll		
MYPBC3	C>G	Negative	Clear
	*Frequent in Maine Coon		

## Retinal degeneration II

Progressive retinal atrophy (PRA) is a disease marked by the deterioration of retina caused by the progressive death of retinal cells.

Gene	Mutation	Result	
CEP290	A>C	Negative	Clear

## Mucopolysaccharidosis

Mucopolysaccharidoses are a group of metabolic disorders characterized by a deficiency in the production or functioning in lysosomal enzymes required for digestion of glycosaminoglycans (GAGs).

Gene	Mutation	Result	
ARSB	A>G *Type VI	Negative	Clear
GUSB	G>A *Type VII	Negative	Clear
GUSB	T>G *Type VII	Negative	Clear
GUSB	C>T *Type VII	Negative	Clear

## Gangliosidosis

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Gangliosidosis is a group of lipid storage disorders characterized by the accumulation of lipids – gangliosides in neurons. GM2AB gangliosidosis (type AB) is associated with a deficiency in beta hexosaminidases A and B.

<b>Gene</b>	<b>Mutation</b>	<b>Result</b>	
HEXB	T>del *GM2 Type II	Negative	Clear
HEXB	TAC..>inv *GM2 Type II	Negative	Clear
GM2A	GACC>del *GM2, GM2A deficiency	Negative	Clear

## Cystinuria

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Cystinuria is an inherited metabolic disease, relatively common in dogs and rare in cats, associated with high cysteine levels in urine.

<b>Gene</b>	<b>Mutation</b>	<b>Result</b>	
SLC3A1	C>T *Type I-A	Negative	Clear
SLC7A9	G>A *Type B	Negative	Clear
SLC7A9	C>T *Type B	Negative	Clear

## Porphyria

Porphyria is a group of diseases associated with the accumulation of porphyrins. The buildup of porphyrins in the acute diseases primarily affect the nervous system.

<b>Gene</b>	<b>Mutation</b>	<b>Result</b>	
HMBS	T>ins *Acute intermittent	Negative	Clear
HMBS	G>A *Acute intermittent	Negative	Clear
HMBS	C>T *Acute intermittent	Negative	Clear
HMBS	G>A *Acute intermittent	Negative	Clear
HMBS	GAG>del *Acute intermittent	Negative	Clear
UROS	C>T *Congenital erythropoietic	Negative	Clear
UROS	G>A *Congenital erythropoietic	Negative	Clear

## Factor XII deficiency

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Factor XII deficiency, or Hageman deficiency, is a blood clotting disorder characterized by deficiency in the coagulation factor XII.

Gene	Mutation	Result	
F12	C>del	Negative	Clear
F12	G>del	Negative	Clear

## Mannosidosis, alpha

---

Alpha mannosidosis is a lysosomal storage disorder characterized by the deficiency of the alpha-D-mannosidase enzyme. A defective alpha-mannosidase causes progressive accumulation of mannose-rich oligosaccharides in all tissues, which subsequently disrupts the cellular functions and causes apoptosis.

Gene	Mutation	Result	
MAN2B1	CTGG>del	Negative	Clear

## Vitamin D-deficiency rickets, type I

---

Rickets or osteomalacia is a disease associated with the softening of bones and increased rate of bone deformities and fractures.

Gene	Mutation	Result	
CYP27B1	C>del	Negative	Clear
CYP27B1	C>A	Negative	Clear

## Niemann-Pick disease, type C1

---

Niemann-Pick disease is a group of hereditary lysosomal storage diseases. Feline Niemann-Pick disease C coincides with the human type C of this disorder, and it is classified in two subtypes: C1 and C2.

Gene	Mutation	Result	
NPC1	C>G	Negative	Clear
NPC1	T>G	Negative	Clear

## Primary hyperoxaluria type II (Oxalosis II)

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Hyperoxaluria is a congenital, potentially lethal condition characterized by disrupted metabolism of oxalates and their excessive urinary excretion.

Gene	Mutation	Result	
GRHPR	G>A	Negative	Clear

## Hypokalaemic periodic paralysis

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Hypokalemia refers to the state of low potassium ion ( $K^+$ ) levels in the blood. It often arises as a secondary problem due to other deficiencies or diseases, but it may also be a result of a primary congenital disease, such as hypokalemic period polymyopathy.

Gene	Mutation	Result	
WNK4	C>T	Negative	Clear

## Autoimmune lymphoproliferative syndrome

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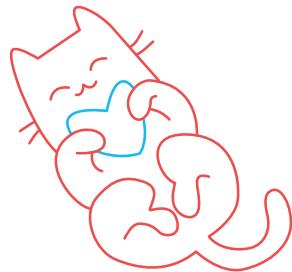
Autoimmune Lymphoproliferative Syndrome (ALPS) is a lethal disease distinguished by massive enlargement of lymphatic nodes and spleen caused by the accumulation of lymphocytes.

Gene	Mutation	Result	
FASLG	A>ins	Negative	Clear

# Health and wellness

We hope you enjoyed flipping through the first chapter of your kitty's DNA story. We sure enjoyed getting to know more about them! This is just the start of connecting all of the kitty dots, stay tuned - there is much more to come.

Feline health & wellness is very important to us! Together, we will elevate feline care to a new level on our mission to help cats live healthier and happier lives. We've shared some actionable insights to help you optimize your kitty's health and well being, so that you may get to know your cat better!



## Visit your veterinarian

Be proactive and have your kitty examined regularly. Annual (semi-annual for older cats) wellness exams and routine lab tests can help veterinarians find and treat many health conditions before they become life-threatening. Check-ups are especially important for cats, who are excellent at hiding when they're sick or in pain.

## Keep your cat at a healthy weight

Obesity is as dangerous for cats as it is for people. It puts them at risk for health problems such as diabetes, high blood pressure, heart and lung disease. It can even increase their risk of developing cancer. Talk to your veterinarian about what a healthy weight means for your cat.

## Polish those pearly whites

Unlike humans, cats can't brush their teeth. Partner with your veterinarian to create a dental care plan. The bacteria that collects on your cat's teeth can also enter their bloodstream, contributing to a plethora of health issues and other feline diseases.

## Provide clean water daily

If your kitty isn't drinking enough water, they could become dehydrated or develop a urinary tract disease. Always make sure that you provide a constant supply of clean water. If they are finicky about water, try providing an intriguing fountain or feed them wet canned food which adds more water to their diet.

## Give your cat mini exams at home

Petting and brushing your cat is about more than minimizing hairballs and showing your kitty love. It also lets you get your hands on your kitty so you can notice any lumps, bumps, or growths early and get them checked out right away. It's equally important to look for changes in behavior, stool/urine, coat condition and weight. By knowing your kitty well, you can catch changes before it's too late.

## Proper nutrition can increase life expectancy

Aging includes a multitude of factors: environment, breed characteristics, nutrition and genetics. To help your cat live her best life, she needs a high-moisture, species-appropriate diet. While diet is important, how much and how often your cat eats is also key. Additional Tips: If you have more than one cat, feed them separately and monitor each one's consumption.

## Exercise your cat's body and mind

Kitties need both physical and mental exercise! Make sure they have plenty of toys to play with, which could include food puzzles and toys that take them through an entire prey sequence (ending with a treat). Cat trees, perches and shelves are important too, they allow your cat to monitor what's happening outside a window, or keep an eye on what's happening in your home.

# Appendix

List of all supported cat breeds

# Abyssinian



The western part of Bastu - ALT (Swab) is more similar to the Abyssinian than 90.53% of all other cats in our database

## Overview

The miniature cougar of the cat world, the Abyssinian is a gorgeous and energetic breed that is said to resemble the wild cats found all over North America. The Abyssinian often has a ticked coat pattern ranging in color from ruby red to fawn tones and silvery blues. They are characterized by wide expressive eyes, large ears, and a long, lean body.

## Breed Origins

The Abyssinian is said to be one of the oldest cat breeds. For a long time, it was believed that these cats originated from ancient Abyssinia (present Ethiopia), but recent genetic studies have suggested that South East Asia is more likely to be their place of origin. Based on the genetic markers found in the Abyssinian, it is presumed that cats from both Asia and Europe were used to create the Abyssinian breed we know today.

## Genetic Predisposition

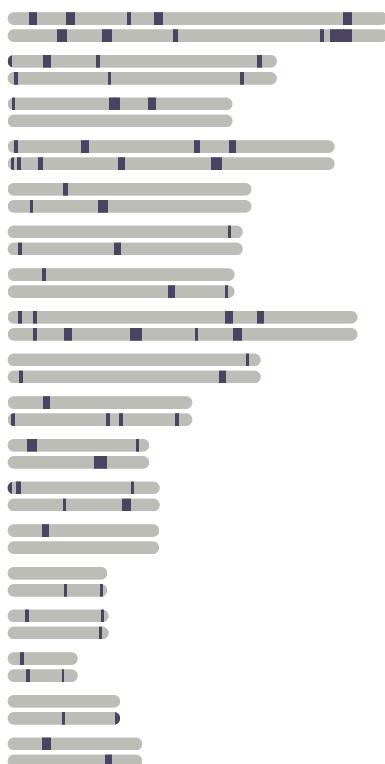
Some published studies have recognized the Abyssinian breed, among several other breeds, to be at a higher risk for Diabetes mellitus. Progressive retinal atrophy (PRA) has also been noted in the breed, as well as in Somali and Ocicat cat breeds. Two genes related to this condition have been identified in all three of the breeds. Other health problems associated with the Abyssinian breed are periodontal disease (gingivitis), hypertrophic cardiomyopathy (HCM), dilated cardiomyopathy (DCM), pyruvate kinase deficiency (PKD), psychogenic alopecia (stress-related hair loss) and patellar luxation (trick knee).

## Personality

Notorious for its intelligence and agility, the Abyssinian is considered to be one of the most athletic and outgoing breeds. Although Abyssinians are not typically known to be laid back and cuddly cats, they can easily suffer from depression without the attention of their owners. These cats are excellent climbers, hunters and jumpers. They thrive in environments where they can explore, climb high spaces or simply enjoy good mischievous play with their humans and fellow cat friends.

## Chromosome map

- Abyssinian regions



# Maine Coon



The western part of Bastu - ALT (Swab) is more similar to the Maine Coon than 81.20% of all other cats in our database

## Overview

Tipping the scales at almost 20 pounds, the Maine Coon is said to be one of the largest and heaviest cat breeds. This breed is very muscular, agile and heavily boned, sporting a thick, uneven, double layered coat and a bushy tail. They also have the longest whiskers of any other cat breed.

## Breed Origins

The origin of the Maine Coon remains unfamiliar, but there are many speculations and supported theories. One of which suggests that these elegant, long-haired cats accompanied the Vikings from Europe as they journeyed to America. Another story has it that the Maine Coon is the first and therefore the oldest native breed to have been created in the United States, specifically in the state of Maine, where today it is the official state cat.

## Genetic Predisposition

The Maine Coon breed is known to be at a higher risk for developing hypertrophic cardiomyopathy (HCM), the most common heart condition among all feline breed groups. HCM can be caused by several genetic mutations. In the Maine Coon an autosomal dominant mutation in the myosin-binding protein C gene has been identified among 33% of breed (Longer, M. 2013). HCM is a progressive disease and can result in heart failure, paralysis of the hind legs, and even sudden death. Another genetic mutation found among Maine Coon cats is known as the "Hemingway" mutation, which can result in the development of an extra toe, or at times even two. This harmless mutation is commonly referred to as polydactylism and is frequently seen among the breed.

## Personality

Termed as one of the few "water loving cats" the Maine Coon is truly a gentle giant and adored for its playful, independent dog-like nature. Maine Coons are known to be pretty vocal, utilizing a wide range of complex sounds. These cats are often quite obedient and possess an above average intelligence making them easy to train. It is not uncommon to see cats of this breed being walked on leashes.

## Chromosome map

- Maine Coon regions



# Siberian



## Chromosome map

- Siberian regions



The western part of Bastu - ALT (Swab) is more similar to the Siberian than 71.62% of all other cats in our database

## Overview

For centuries, the Siberian forest cat was a landrace variety of a domestic cat in Russia. By the 1980s, they developed to be a formal breed with declared standards. This feline is considered to be an ancient cat, and believed to be the ancestor of all long-haired modern cats. The Siberian cat is Russia's national animal, characterized by a long, luxuriously dense coat. They express all three natural types of fur: guard hairs, awn hairs and down. The coat colors can vary from tabby, solid, tortoiseshell and color-point. Known as exceptional jumpers, Siberians are powerfully built, strong cats with large rounded paws.

## Breed Origins

The first mention of the breed appeared in a book by Harrison Wier in 1871. It wasn't until the 1990s that the breed was introduced to the US. This breed is highly popular, but being native to Russia, Siberian kittens are very expensive to obtain which is why they're relatively rare outside Europe. The breed was officially recognized and validated in the 1980s.

## Genetic Predisposition

All cats face a certain risk of developing some type of inherited health problem. There are claims that Siberian cats may be at a higher risk from hypertrophic cardiomyopathy (HCM), polycystic kidney disease (PKD), hereditary cancer, feline lower urinary tract disease (FLUTD) and periodontal disease, however, there are no known conditions that prove to be tightly associated with this particular breed. Siberian cats are often considered to be a hypoallergenic breed because they produce less FeLD1 (an allergen thought to cause allergic reactions in people).

## Personality

Siberians are friendly and social cats, always looking for companionship. They get along great with other animals and children. They are brave, independent, and yet easygoing and affectionate. There are claims that these cats can sense when someone is in need of moral support and will provide company to the respective person. These playful and intelligent kitties enjoy playing with various toys and are quick to learn a trick or two.

# American Shorthair



**The western part of Bastu - ALT (Swab) is more similar to the American Shorthair than 63.60% of all other cats in our database**

## Overview

Sturdy, powerful, agile and full of endurance, the American Shorthair has all the characteristic of a skilled hunter. These beauties are defined by their large heads, powerful jaws and full cheeks. American Shorthairs have short, dense coats that come in various colors such as gold, brown, cameo, calico, and the popular silver tabby. Their eyes are large and distinctive and come in colors such as blue, copper, hazel and gold.

## Chromosome map

- American Shorthair regions



## Breed Origins

The first American Shorthairs were believed to have accompanied European settlers who left Europe and set their sails for North America. They were brought onboard as mice hunters, protecting the ship's cargo from rodent infestation. These hardy companions didn't receive their American Shorthair name until 1966, when they were crowned the title in order to differentiate them from regular random-bred, domestic shorthair cats.

## Genetic Predisposition

Although the American Shorthair is considered a healthy breed with very few health problems, they can be affected by hypertrophic cardiomyopathy (HCM). They are also prone to inherited craniofacial defects which can range from mild versions like dermoid cysts to more serious conditions such as cleft palates and crooked jaws, where the latter results in the development of misaligned teeth.

## Personality

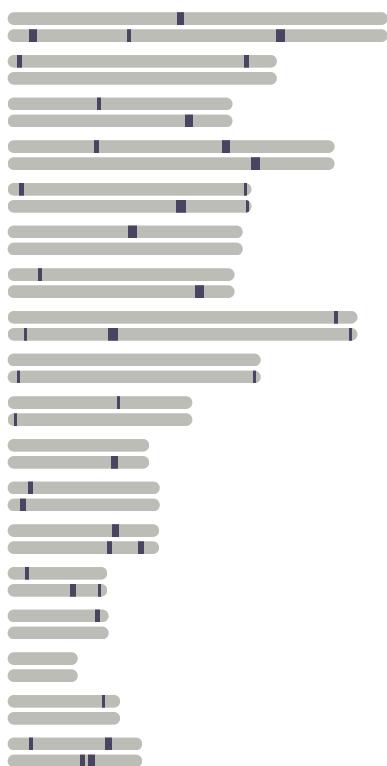
The American Shorthair is the ideal family cat. These versatile cats are social, easygoing and quite affectionate. Even though they aren't typically known to be lap cats, they will certainly appreciate a spot next to you on the sofa. Being a moderately active breed, they are not overly demanding of attention and activity, and are good at keeping themselves entertained. When not hunting for random insects, the American Shorthair can be found lounging the day away in the sun.

# Ragdoll



## Chromosome map

- Ragdoll regions



**The western part of Bastu - ALT (Swab) is more similar to the Ragdoll than 60.21% of all other cats in our database**

## Overview

Alongside the Maine Coon, the Ragdoll is considered one of the world's largest cat breeds with an average weight ranging from 15 to 20 pounds. These friendly felines often have long, lustrous coats that come in a variety of colors and patterns such as white, tortoiseshell, lynx, lilac, blue, chocolate, and seal.

## Breed Origins

The Ragdoll is considered to be a native to the United States. It is said that they originated in California during the 1960s. The breed was created through the crossing of a long-haired, white cat named Josephine, a seal colored mitted cat, and a black cat. It is believed that Josephine may have been a hybrid of a Persian and possibly a Birman or Siamese.

## Genetic Predisposition

The Ragdoll is a strong, healthy breed that can live a healthy long life if nurtured properly. There are a few things to keep in mind though. These cats are at a higher risks for developing feline infectious peritonitis (FIP) and hypertrophic cardiomyopathy (HCM). HCM can be caused by several genetic mutations that have been identified in about 20% of Ragdoll cats (Longer, M. 2013).

## Personality

These elegant kitties are quite easygoing. They are calm and very sweet-natured, enjoying cuddles whenever available. They're known to possess quirky behaviors like drinking water from the tap or going limp like a "ragdoll" when being held. They are the ultimate lap cat, and because of their docile demeanor, they make perfect pets for families with children or other pets.

# Russian Blue



The western part of Bastu - ALT (Swab) is more similar to the Russian Blue than 57.81% of all other cats in our database

## Overview

Meet the “Doberman Pinscher of cats”. A cat that combines elegance and masculinity in its own unique way. Russian Blues are very strong and agile cats, with a sweet-natured temperament. The breed is known for its grayish-blue coat, broad head and vividly green eyes. Its short, plush fur has silver-tipped hairs giving the coat a slight shimmering appearance.

## Breed Origins

The Russian Blue is a naturally occurring breed thought to have originated in Archangel, Russia. However, despite its Russian origins, the breed was mainly developed in Great Britain and Northern Europe where it was thought to have been introduced by Russian sailors. The Russian Blue breed present in the US today was developed by combining the British Russian Blue with the Scandinavian Russian Blue. Russian Whites, Blacks and Tabbies were all created by crossing Russian Blues with domestic cats. The breed was also used, to a certain extent, in the development of the Havana Brown and in altering the Nebelung breed.

## Genetic Predisposition

These moderate-sized cats have little to no genetic predispositions. However, they do love to eat, therefore it is important to appropriately dose their food to avoid the onset of obesity. Some published studies have recognized the Russian Blue, among several other breeds, to be at a higher risk for Diabetes mellitus, a metabolic disorder in which blood sugar levels remain high for long periods of time.

## Personality

Russian Blues are very curious, friendly and social cats. They can seem shy or distant at times, but in fact, they often get depressed or anxious if they feel neglected in any way. Blues are known to be very loyal, loving and even sensitive to human emotions. They are typically quiet, and yet very playful and energetic. Due to their high level of intelligence and excellent memory they tend to remember favorite visitors even if the visits are infrequent.

## Chromosome map

### ● Russian Blue regions

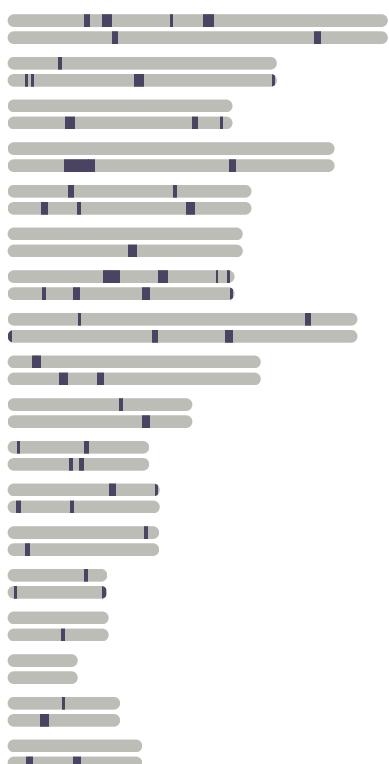


# Oriental Shorthair



## Chromosome map

- Oriental Shorthair regions



The eastern part of Bastu - ALT (Swab) is more similar to the Oriental Shorthair than 86.35% of all other cats in our database

## Overview

A close relative of the Siamese, the Oriental Shorthair maintains the same head and body type of its parent breed, but sports various coat colors and patterns, such as smoke, shaded, tortoiseshell, tabby and bicolor. In fact, over 300 color and pattern combinations are possible under CFA conformation rules. Oriental Shorthairs are lean, muscular and agile with large, pointed ears similar to those of the modern Siamese. However, unlike the deep blue eye color of the Siamese, their almond-shaped eyes are green. Another variety of the breed is the Oriental Longhair – who simply carries a pair of recessive long hair genes.

## Breed Origins

It is believed that the Oriental Shorthair find their foundation in the Siamese breed. The Siamese are the royal cats from Thailand, first brought to the UK in the 1800s. From there they spread widely, quickly becoming one of the most popular breeds. During World War II, many breeding programs in UK were devastated, and the Siamese started being cross-bred with other breeds in order to expand their gene pool. They were crossed with Russian Blues, British Shorthairs, Abyssinians and Domestic Shorthairs. Kittens born with Siamese points were rotated back into Siamese breeding programs, while the non-pointed kittens became the basis for the Oriental Shorthair breed.

## Genetic Predisposition

Since being derived from the Siamese, the Oriental Shorthair is at a higher risk for developing some health problems typical for their ancestors, such as neoplastic and gastrointestinal disorders, crossed-eyes, lung infections, feline OCD, vestibular disease, Feline Hyperesthesia Syndrome and Diabetes mellitus, a metabolic disorder in which blood sugar levels remain high for long periods of time. Siamese-derived breeds are noted to have higher mortality rates compared to other cat breeds.

## Personality

The Oriental Shorthair is said to closely resemble the personality of the Siamese as well. They are agile, athletic and are quite skilled jumpers. They are highly vocal, playful and social cats who aren't shy about demanding the attention they so rightfully deserve. They seek company from other cats as well as humans. They can be prone to depression and therefore do not do well being left alone for long periods of time.

# Peterbald



## Chromosome map

- Peterbald regions



The eastern part of Bastu - ALT (Swab) is more similar to the Peterbald than 66.51% of all other cats in our database

## Overview

The Peterbald is a Russian hairless cat breed originating in St. Petersburg in 1994. These unusual kitties are carriers of a hair-losing gene and are characterized by having either a bald, flocked, velour, brush, or straight coats. Those born with fur, may lose their hair over time. They come in all colors and patterns, and are said to closely resemble the Oriental Shorthair in physical appearance. They are slim and muscular with almond-shaped eyes and large, pointed ears.

## Breed Origins

In 1994, Olga S. Mironova conducted an experimental breeding of a male Don Sphynx (Donskoy) and a female Oriental Shorthair. The first two litters produced four Peterbald kittens. These four kittens were the founders of the breed.

## Genetic Predisposition

All cats face a certain risk of developing some type of inherited health problem. However, currently there are no known conditions associated with this particular breed.

## Personality

Peterbalds are sweet and affectionate little cats. These felines are famous for their dog-like loyal demeanor towards their favorite humans. It is said that they often follow their humans around the house in order to be near them as much as possible. They are energetic, curious, and at the same time peaceful and docile. They get along well with children and other pets.

# Birman



The eastern part of Bastu - ALT (Swab) is more similar to the Birman than 63.28% of all other cats in our database

## Overview

The Birman, also called the "Sacred Cat of Burma", is a strikingly beautiful long-haired cat with an equally beautiful history of origin. They are distinguished by a soft, silky coat, deep blue eyes, and contrasting white "gloves" on their paws, a trademark of the breed.

## Breed Origins

The exact origin of this breed is unknown. It is believed the Birman originated from the city of Burma over a hundred years ago. According to folklore, the striking beauty of this breed was said to have been the work of divine intervention by the "blue-eyed goddess". The breed was almost completely extinguished by the end of World War II, with only two cats being the breed's sole survivors. In order to restore the breed, they were outcrossed with long-haired Persians and Siamese. The cats were first imported to the United States in 1959 and were recognized by the Cat Fanciers' Association in 1967.

## Genetic Predisposition

The Birman is more likely to develop early renal failure, congenital cataracts, feline infectious peritonitis and hemophilia B. This breed is also at a higher risk for hypertrophic cardiomyopathy (HCM), the most common heart disease seen among all feline breeds.

## Personality

The Birman is a docile, smart and very sweet-natured cat. These gentle felines get along well with young children as well as other pets, and make excellent family companions. They are known for their people-loving and affectionate nature, and are always eager to be near their favorite humans. Unlike their close relative, the Siamese, Birman cats are rather quiet, yet may occasion greet you with a very soft meow. These sweet kitties require love and attention to thrive and don't do well in solitude.

## Chromosome map

- Birman regions



# Egyptian Mau



The exotic part of Bastu - ALT (Swab) is more similar to the Egyptian Mau than 30.60% of all other cats in our database

## Overview

Loyal, playful and an elite athlete, the Egyptian Mau is one of the few naturally spotted domestic cat breeds. The breed conformation is described by The Cornell Book of Cats as "a balance between the compactness of a Burmese and the slim elegance of a Siamese". The breed comes in five colors, however, only silver, smoke and bronze are considered show worthy. This breed is extremely rare. Today, it is estimated that there are as little as 3000 Egyptian Mau cats worldwide.

## Breed Origins

There is still a big controversy behind the origins of this breed. While all historic evidence suggest that this is an Egyptian breed, DNA studies reveal that the breed we know today is actually mostly of European and North American origin. The first recording of the breed came from ancient Egypt, as the breed was known to be prized by the Pharaohs, however the question of how the breed surfaced in Egypt in the first place remains a mystery. Based on genetic analysis, the Egyptian Mau is genetically closely related to the Maine Coon, the Korat, and the American Turkish Angora (not native Turkish Angoras). The first Egyptian Mau was brought to the US in 1956 by a Russian Princess named Nathalie Troubetzkoy.

## Genetic Predisposition

The Egyptian Mau is at a higher risk for developing feline urate urolithiasis, a disease caused by the crystallization of minerals and compounds such as ammonium and uric acid. The disease leads to the build-up of stones within the urinary tract which can ultimately be fatal if left untreated. Egyptian Mau cats are fond of very warm temperatures, and are more temperature sensitive than most other domestic cats. They are noted to also be more sensitive to medicines and anesthesia.

## Personality

Vocal, adventurous and uniquely a water lover, the Egyptian Mau is an athletic breed that requires an engaging environment. These cats are playful, fast and keen hunters and will thrive in an environment which enables them to express their instincts. They often do better in homes with older children as opposed to younger ones.

## Chromosome map

- Egyptian Mau regions



# Savannah



## Chromosome map

### ● Savannah regions



**The exotic part of Bastu - ALT (Swab) is more similar to the Savannah than 19.58% of all other cats in our database**

## Overview

The Savannah cat is an unusual, yet beautifully elegant cross between an African Serval cat and a domestic cat. Savannah cats are lean and tall, but their size greatly depends on sex and the hybrid's generation. First generations are usually larger, weighing around 8 to 20 pounds, while later generations (F3 and onward) tend to be smaller. The Savannah breed is distinguished by a few prominent features inherited from their wild ancestors. They have exceptionally long bodies, tall and cupped ears, puffy noses and hooded eyes. Their coats are short and dense. TICA accepts only spotted coat patterns which can be brown, silver or black smoke (as these are the only patterns found in the African Serval). However, non-standard colors and patterns can be found as well, such as marble, rosette, pointed, cinnamon, and chocolate among others.

## Breed Origins

The Savannah cat was created by Judee Frank, who crossbred a male African Serval cat with a Siamese domestic cat. The first Savannah cat, also named Savannah, was born on April 7, 1986. The breed was first presented to the board of The International Cat Association (TICA) in 1996, and was finally accepted in 2001. While the wild cat was originally crossed with a Siamese, the hybrids were outcrossed with other domestic cats in the early days. This enriched the breeds gene pool by adding a lot of variation. TICA accepts outcrosses with the Egyptian Mau, Ocicat, Oriental Shorthair and Domestic Shorthair, but outcrosses with Bengal and Maine Coon breeds are not permitted. However by the 1990s, outcrossing began to be considered unfavorable, and as of 2012, Savannah cats are mostly bred only with other Savannah cats.

## Genetic Predisposition

All cats face a certain risk of developing some type of inherited health problem. However, currently there are no known conditions tightly associated with this particular breed.

## Personality

Savannah cats are known to be loyal and friendly with a very calm demeanor. Due to their above average intelligence, they are highly trainable and tend to enjoy being walked on a leash. As with many other breeds, some Savannah cats may be more independent and self-reliant, while others may prefer the company of multiple companions, including children and other pets. They are very athletic and agile cats, preferring any activity or game that involves jumping or climbing.

# British Shorthair



The persian part of Bastu - ALT (Swab) is more similar to the British Shorthair than 84.16% of all other cats in our database

## Overview

The British Shorthair is a version of the traditional British domestic cat. They are fairly large solid cats having chunky bodies, strong legs, broad heads and large piercing eyes. The most common coat color among this breed is known as the "British Blue", but the breed has developed a wide range of coat colors and patterns which compliment their densely rich coats.

## Breed Origins

The British Shorthair is considered to be one of the oldest identifiable cat breeds in the world. The British Shorthair is considered to have originated in the 1870s. It shares common ancestry with the native wild cats of Great Britain and were first introduced to the United Kingdom by the Romans. Towards the end of World War II, the breed began to drastically decline in numbers, so in order to salvage and recreate the gene pool, breeders began crossing them with other purebreds such as Persians, Russian Blues and Burmese.

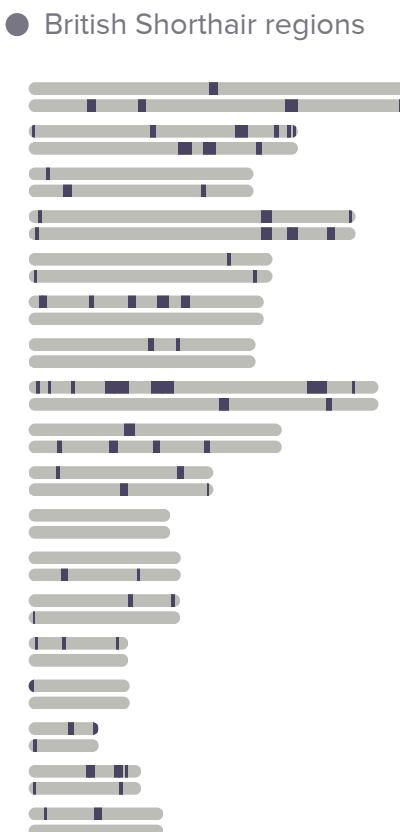
## Genetic Predisposition

Unfortunately, recent genetic evidence suggests that the British Shorthair can be genetically predisposed to polycystic kidney disease, an inherited kidney disorder characterized by renal cysts leading to kidney failure, and hypertrophic cardiomyopathy (HCM), a form of heart disease that results in the abnormal thickening of the heart muscle. A 2011 Danish study of more than 329 British Shorthairs concluded that 20.4% of males and 2.1% of the females had HCM (Granström, S. 2011). In addition this breed is prone to obesity, therefore it is important to instill a proper diet and exercise regimen.

## Personality

This dignified breed is famous for it's easygoing and patient temperament. Although these cats are very affectionate, they don't make particularly good lap cats and do not appreciate being picked up or carried around. The British Shorthair is sweet-natured and can make a great companion for anyone seeking a low-maintenance cat.

## Chromosome map



# Himalayan



## Chromosome map

### ● Himalayan regions



The persian part of Bastu - ALT (Swab) is more similar to the Himalayan than 68.14% of all other cats in our database

## Overview

A medium-sized breed of cat, the Himalayan is a friendly companion most prized for its long, silky soft coat. Himalayan coats are identical in type to those of Persian cats, but their deep blue eye color and pointed coloration are inherited from cross-breeding with the Siamese breed. The Cat Fanciers' Association considers the Himalayan simply a color variation of the Persian breed rather than a separate breed of its own, although they do compete in their own color division.

## Breed Origins

In 1931 two breeders began a breeding program that involved crossing a Persian cat with a Siamese cat. The goal was to create a new Persian breed that would inherit the color pointed coat and blue eyes of the Siamese. The Persian is a naturally occurring breed that was said to have been first spotted in Iran and Iraq. It became a favorite among many early Europeans, who then began their selective breeding. The Siamese originated from South East Asia and was carefully selected by breeders for its distinctive color pointed appearance.

## Genetic Predisposition

The Himalayan is essentially a hybrid of two purebred cats. Most Himalayans tend to live healthy long lives with very little health problems. However, being so closely related to the Persian cat, a breed known to struggle with multiple inherited health problems, Himalayans are at a higher risk for developing polycystic kidney disease (PKD) and progressive retinal atrophy. They have also been noted to be prone to various ocular disorders.

## Personality

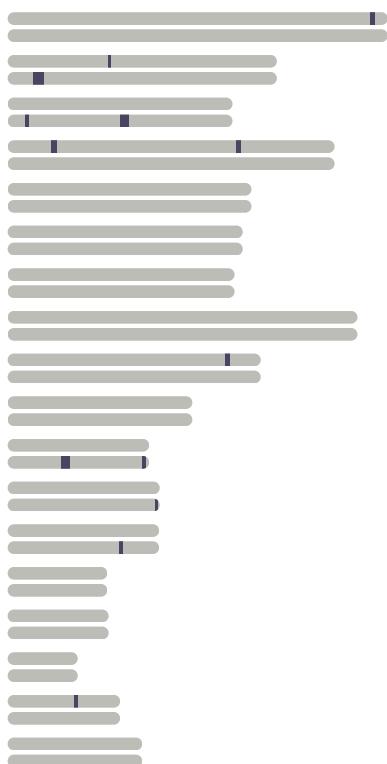
Himalayans are gentle, affectionate, and typically are not very vocal. They are known to be 'one-man cats', which means they aren't well suited for large families as they don't like sharing the attention of their favorite human. They are not very tolerant of dogs or children and may get nippy if pestered. The Himalayan is an easy going, placid feline who won't ruin the furniture, preferring to curl up on their humans lap whenever possible.

# Exotic Shorthair



## Chromosome map

- Exotic Shorthair regions



The persian part of Bastu - ALT (Swab) is more similar to the Exotic Shorthair than 48.74% of all other cats in our database

## Overview

The Exotic Shorthair is a gentle, curious and friendly kitty who was created as a shorthaired version of the Persian cat. They meet all the criteria designed for their Persian parent breed, except for the fur. They are medium-sized, with an oval, broad head and short, 'pushed in' muzzle. Their round ears are relatively small, but the eyes are large, round and deep in color which corresponds to the coat. They have short legs and large paws with tufts of fur between the toes. The tail is short and thick. Their coat is short, but a tad longer than other shorthaired cats. They come in all the colors and patterns.

## Breed Origins

The Exotic Shorthair is a relatively young breed whose origin goes back about 50 years. The breed was created accidentally in a secret effort of American Shorthair breeders to improve the body type of the ASH by introducing the Persian into the bloodline. The new crossbreed gained unexpected recognition, thus resulting in the production of a brand-new breed standard. This, sadly for ASH breeders, resulted in the disqualification of ASH crossbreds from the show ring, and the creation of a new breed officially recognized by the Cat Fanciers' Association in 1966. The breed was named Exotic Shorthair and it met every standard designed for the Persian breed, except for the coat. In 1987, the outcrossing of the new breed to ASH was closed, thus leaving the Persian as the only allowable outcross breed. Because the long fur in the Persian breed is inherited recessively, some Exotic Shorthair cats may carry the recessive gene for the long fur without expressing it. When two such cats meet, there is a 25% chance for each of their kittens to be longhaired like the parent breed. The longer-haired variants are not accepted as Persian nor Exotic Shorthairs by the Cat Fanciers' Association, but instead they're assigned as a separate Exotic Longhair breed. The International Cat Association simply accepts these variants as Persians.

## Genetic Predisposition

Like the Persian, the Exotic Shorthair is a brachycephalic breed, thus being prone to health problems associated with brachycephaly (i.e. brachycephalic airway obstructive syndrome, tooth misalignment, tooth crowding, issues with tear ducts, heart problems). The breed has also been associated with increased risk from calcium oxalate urolithiasis, dystocia, and polycystic kidney disease (PKD).

## Personality

The Exotic Shorthair is a very gentle and calm kitty. They are often playful and energetic like the ASH, thus being a lot livelier than the Persian. Their temperament retains the affection and loyalty of the Persian, thus making them purrfectly loving 'lap cats'. The Exotic Shorthair is also often a great hunter. Despite their energetic nature, they are very well suited for a life in the apartment.