

UNLOCK



Today's DNA tests are fast, easy and so revealing.

BY MARY SCHWAGER

Your Cat's HIDDEN HISTORY

WHEN YOU ADOPT A CAT FROM A SHELTER OR RESCUE, her backstory, background and breed are often a mystery. If you adopt a kitten, you may have seen pictures of the mama cat, but you rarely know the kitty daddy. He may have been the neighborhood random-bred tomcat Casanova out for a midnight tryst or a purebred on the prowl.

Testing your feline's DNA could unlock clues about her hidden history. The popular test kits might reveal how similar your cat's genes are to other modern-day breeds and screen for genetic markers that may flag possible future health issues.

For about \$140, you can order a kit, swab the inside of your cat's mouth, mail the swab to the DNA company and wait in anticipation for the results.

Giuliano Argenti from California has five cats. One is a purebred Burmese; the other four he and his family rescued or adopted. He ran DNA tests on them all. "I recognize the benefits," he says.

Cat genetics are not like dogs genetics

Cats have been hitchhikers throughout history and the world. An adventurous kitty who jumped aboard a ship in Italy may have traveled to the United States hundreds of years ago and bred with a cat who immigrated from China. Then their kittens grew up and mated with countless other cats with different backgrounds. It's a challenging gene pool to track.

"Doing a DNA test on a random-bred house cat, alley or barn cat, you're not very likely to pick up part of some breed, but every once in a while, you have some cats →

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in the shelter that certainly could be part of a breed, and these genetic tests could help you find that," says Leslie A. Lyons, PhD, the lead investigator at the Feline Genetics Laboratory at the University of Missouri College of Veterinary Medicine.

Cat DNA test results are a bit different than what you might receive for dogs. The dog gene pool is distinct. Domesticated dogs have been selectively bred for certain behaviors and traits for thousands of years. Different pooch breeds have specific genetic markers.

But the cat gene pool is diverse. Some breeds have only been selectively bred and created during the last 100 years, while random-bred cats' genetic lines have evolved over centuries.

"We like to refer to random-bred cats as products of their specific genes rather than products of specific breeds," says Dr. Annette Louviere, a veterinary expert at Wisdom Panel, which makes pet DNA tests. "This is because, unlike mixed-breed dogs, most random-bred domestic cats descend from family lines of other random-bred cats rather than multiple pedigreed breeds."

Even cat DNA testing is a burgeon-

ing field that some scientists and companies eagerly study.

"There's a very, very small amount of purebred cats sequenced out there, especially compared to dogs," says Yuliana Mihaylova, PhD, the head of research and development for Basepaws, which makes pet DNA tests. "So, in general, what we know about cat breeds is a lot less than what we know about dog breeds."

Health issues revealed

Tell your veterinarian if a DNA test does identify your cat as part of a breed. Some breeds are prone to specific health conditions. Abyssinians have a predisposition to inherited blindness, Maine Coons to hypertrophic cardiomyopathy and Persians to polycystic kidney disease.

"You might want to know if your cat comes back part Persian, whether your cat has this kidney disease, and then you could potentially change the dietary treatment throughout the cat's life so that she doesn't go into early kidney failure," Dr. Lyons says.

Some cat DNA tests reveal if your



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cat has genetic markers for dozens of potential health conditions — but having a marker does not mean your cat will become ill. The tests are not diagnostic tools, but this is another result to discuss with your veterinarian.

"Understanding their unique genetic predispositions can help pet parents make individualized and preemptive care plans," Dr. Louviere says.

Giuliano used a Basepaws DNA test that screens for possible oral health issues on his 17-year-old rescued cat, Sami. Basepaws says the test analyzes the genetic properties of bacteria, viruses and fungi in a cat's mouth to identify potential dental issues that might not be visible.

Dr. Mihaylova adds that cats are very good at hiding health problems and pain. "Detecting that condition earlier could be a way to really reduce the



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suffering of your cat from a dental problem," she says.

Though Giuliano brought Sami for regular veterinary checkups, he says when his cat's DNA test showed some oral health concerns, he brought him to a specialist who confirmed Sami had dental disease.

After oral surgery and antibiotics, Sami's overall health and disposition improved. "He's now 19 years old and healthier than ever. I was very relieved," Giuliano says.

Don't blame it on DNA

So, if a DNA test shows that your cat is genetically like a Bengal, could that result explain her high energy and intelligence?

"A DNA test may partially explain personality quirks or energy levels, but the environment the cat was raised in and early socialization are probably more important, at least in cats that are not purebred," says Marci Koski, PhD, a certified feline behavior and training consultant.

But she warns that if your cat seems off or her behavior is concerning, don't assume that's a breed tendency.

"I've worked with many clients whose cats were excessively vocal but, upon investigation, discovered that the cats were not getting enough food or fed enough meals throughout the day," Dr. Koski says. "If you are concerned about something your cat does or doesn't do, ask your veterinarian or a behavior professional for help."

If you want to train your cat, base your assessment on your kitty's behavior (and misbehaviors) — not simply her breed. Enrichment activities like challenging food puzzles or clicker training can help keep most cats mentally stimulated.

"I never restrict training based on what a cat's genetic makeup might be," Dr. Koski says. "What matters is that you can find something your cat is motivated to work for — whether it's a treat, affection or even simply praise."

LET'S GET TESTING

Ready to jump in and reveal your cat's mysteries? These two companies do DNA cat testing:

Wisdom Panel; wisdompanel.com

- ➔ \$129.99.
*Wisdom Panel
Complete for Cats*
- ➔ \$99.99.
*Optimal Selection
Feline for
cat breeders*



Basepaws; basepaws.com

- ➔ \$159.
*Breed + Health
Cat DNA Test*
- ➔ \$99.
Oral Health Test
- ➔ \$499.
*Whole Genome
Sequencing*

Your cat is one of a kind

While a DNA test may only offer a glimpse of what lies behind your cat's wide, green eyes, experts say when you send in your cat's test kit, you're helping contribute to science and future, growing cat genetic research.

Remember, your cat is one of a kind, and that is what makes her special. "They're so genetically robust," Dr. Mihaylova says. "That's what makes every one unique." 🐾



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