



Seward County Kennel Club

A CLUB FOR PERSONS INTERESTED IN DOGS AND THE SPORT OF DOGS.

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Information for the newsletter, including brags, needs to be submitted by the first week of the month to be included in the next newsletter. Please email submissions to the editor.

HOW ACCURATE ARE DOG DNA TESTS? WE UNLEASH THE TRUTH



Dog DNA companies are rising in popularity as more owners try to understand their pets. Marketplace tested two mixed-breed dogs, a purebred and host Travis Dhanraj.

Despite claiming near 100% accuracy, companies give completely different DNA results

If you're puzzled about the breed of your dog, you aren't alone. There are a number of dog DNA companies to help owners uncover the mysteries of their mutts. But a Marketplace test found dog DNA tests geared toward consumers won't necessarily give owners the answers they're looking for.

Marketplace recruited two mixed-breed dogs, one purebred dog and one human (Marketplace's very own Travis Dhanraj) to test the accuracy of consumer dog DNA tests. Their DNA was sent to four companies that claim to specialize in dog genetic testing: Wisdom Panel, Embark, Accu-metrics and DNA My Dog. Nearly all the results were different, even for the same dog, despite all claiming nearly 100% accuracy rates.

DNA continued on page 4.

NEXT MEETING April 20, 2023
Seward Civic Center 616 Bradford St, Seward, NE 68434
No Special Program - General Meeting 7:30pm

MEETING MINUTES

Seward County Kennel Club
March 16, 2023
Seward Civic Center

Members present: Mary Bristol, Cindy Hill, Jon and Kayla Thomas, Troy and Tabitha Dvorak, and Linda Soukup.
Guests: Mattie, Sam and Jacob Hill.

Morgan recording meeting minutes from NHI in Lincoln via speaker phone.

Meeting called to order by Tabitha at 7:30pm January minutes motion made by Kayla, 2nd Linda. Motion approved and past. No meeting February do to inclement weather.

Secretaries report: Email received from Giant Schnauzer club of America. They would like us to divide the Open Class for Giant Schnauzers into the two colors Black and Pepper and Salt at our future shows. This is allowed by AKC in Section 2 of breeds/varieties and conditions for class divisions doesn't require any approvals from AKC just have to let Foy Trent know so they can list it in premium list. Motion made by Troy to have the Giant Schnauzer class divided into 2 having a black class and pepper and salt class. Motion 2nd by Linda. No discussion motion passed. Tabitha will notify Foy Trent, so it is listed in the premium list.

Mark your calendars March 25-26, 2023 "I Love My Dog Expo" event at Lancaster Event Center in Lincoln. Times vary per day. \$10 cover charge to get in. Some of the activities are Lure coursing all day both days \$5 a run. Cindy Downing, she is a pet medium. If you're wondering what your dog is thinking or if you want to contact a pet over the rainbow you can visit with her. Other attractions include clothing for you and your dog, leashes, collars, bows and homemade treats, vendors for Services like Fencing, Groomers, Veterinarians, trainers and more! Well behaved dogs are welcome to attend.

On March 15, 2023, AKC was featured on Good Morning America. They announced most popular dog breeds. Top breed was Frenchie followed by Golden retriever, Labrador retriever, Standard poodle and German Shepherd.

Treasure's report read. Reynaldo Montelongo and Kayla Winfrey sent check for dues with Mary's name on it just want to inform that it was received, cashed, and put in the club account. Jon made motion to accept treasure's report. 2nd Kayla. No discussion. Motion approved.

Report of the President: none

Awards & Trophies: All trophies have been ordered or received.

Chief Ring Stewart: Let Troy know if you can help set up, during show and/or after the show! Reminder it is a requirement for eligibility for the founder's award to help with the show.

Fun match: Tabitha has started to receive entries

Membership: None

Newsletter: None

Legislation: None

Show: Judge from Canada needed payment for travel expenses prior to show. Mary sent check. Premium list is online. Half of the reserved groom is sold already for Ag Pavilion. So far, we have 3 vendors. Candid photographer from Iowa who can only take ring side candid pictures no

MINUTES continued on page 3.



Donning his new canine decoder, Professor Schwartzman becomes the first human being on Earth to hear what barking dogs are actually saying.



THE RESULTS ARE IN!

OK everyone, the results are in! All of you who have met or know our new dog Ellie have been guessing what kind of mix she is. A lot thought a terrier mix, a basenji or even some kind of sighthound mix. Well, here is what Wisdom Panel discovered....

46% Miniature American Shepherd
8% Australian Shepherd
34% American Pit Bull Terrier
11% American Staffordshire Terrier
1% boxer

I don't think anyone guessed that she was over 50% herding breed! It's fun to know and explains a lot!

-Diane Nitz

MINUTES continued from page 2.

winning pictures. Includes new title ribbons. Pete is aware.

Hospitality: Linda will have a sign-up sheet to be passed around next meeting. Saturday- casseroles, Sunday- sloppy joes. Serving cake and beverages before groups on Saturday May 6th in celebration of 50th Anniversary of the SCKC.

St. John's group will be our food vendor for the show: Mattie from St. John's reported what is inventively on the menu: sloppy Joes, walking tacos, lasagna dinner, breakfast sandwiches and burritos and donuts. Depending on the number of volunteers, may staff the harvest hall with limited items. Funds raised will be going to support mission trip to Alaska. As in previous years 10% of the profit will go to the SCKC

Performance- Chris reported via text and Cindy read text out at meeting. Spring classes start Monday 13, 2023. 10 puppies (4 pre-registered, 6 registered night of class, 1 pre-register didn't come). 32 Basic (31 pre-registered, 5 registered night of class, 4 pre-registered didn't come and 1 pre-registered starting 3/20). Basic class was split into 2 groups Tabitha helped the 2nd group. Mary offered to assist with one-on-one as needed. CGC demo at 7pm 3/27.

Morgan brought Buckley a 1-year-old German shorthair/Chocolate lab mix. He is from the Adopt-A-Pet in York. He has been adopted and brought back to the shelter due to not getting along with the other dogs in the household. Motion made by Mary to dog associated with shelter no fee Mary Jon

Officer elected by acclamation. No nominations from the

floor at January meeting.

President- Tabitha Dvorak

Vice President- Cindy Hill

Secretary- Morgan Ehlers

Treasure- Mary Bristol

Board Members- Kayla Thomas, Diane Nitz, Kathy Jackson and Linda Soukup

Legislation: None

Old Business: Discussion of adding Juniors to bylaws-covered by family membership. Will re-assess if this becomes an issue.

Scholarship- Committee is to hold meeting and report in April. Committee include Kathy Jackson, Tanya Williams, and Mary Bristol. If you would like to be a part of the committee, you can contact a member.

New Business: Morgan has been in contact with Rustic Dry Goods in York they do screen printing, sublimation, embroidery. They would set up a link on the SCKC website for the "SCKC store". Short term cost is \$35 flat fee. Long term (forever) is \$75 flat fee. Long term they would do maintained every 6-8 weeks. Will check into if we can have both logos. Items are customizable. They will add whatever we want like t-shirts, sweatshirts, jackets etc. Motion made by Troy to set up the long-term store with Rustic Dry Goods in York for club apparel. Cindy 2nd the motion. Discussion. Motion passed. Tabitha will get in touch with Foy Trent to get the other logo.

Motion to adjourn meeting made by Troy 2nd by Kayla. Meeting adjourned at 8:50pm

DNA continued from front page.

MEET THE DOGS

Molly, a five-year-old rescue dog from Kuwait, had stumped owner Marilyn Burbidge for years. “We think she may be Saluki-Anatolian shepherd, but when you look at her she looks husky, so we have no idea.”



Elinor Karlsson, the director of the Vertebrate Genomics Group at the Broad Institute of MIT and Harvard, says when a dog appears to be a mix of many breeds, you shouldn't rely on conventional traits — like looks or behaviour — to determine the breed. “People tend to hone in on particular characteristics that they associate with breeds,” said Karlsson, “but once you mix many different breeds together, the traits start interacting with each other.”

The second dog tested was Loki, a 75-pound, three- or four-year-old rescue from Istanbul. A former street dog, his owners say he was in a shelter with about 300 other dogs before he was brought to Canada.



“Our guess is some type of terrier-hound mix,” said Jennifer Yip Arnette, who adopted Loki in April 2022. “Our groomer thinks he's a descendant of the Irish hound, but he's too small for that breed. So we get asked a lot.... We don't know.”

The third dog tested was Quinn, a 16-month-old purebred Great Dane who is also a service dog.



“Am I 100% sure she's 100% Great Dane? Yes, absolutely I am,” said Michelle Weger, Quinn's owner. Quinn's breeder provided lineage documentation for Quinn tracing back to her great-great grandparents.

Quinn is Weger's service dog for narcolepsy. A well-bred, large purebred dog was important to Weger, who experiences cataplexy, a symptom of narcolepsy where an individual can collapse when experiencing strong emotions. Quinn will sense when a collapse is about to happen, and cue Weger to sit down to avoid hitting her head, typically by grabbing her arm.

MEET THE COMPANIES

Marketplace ordered DNA tests from four popular companies offering kits to Canadians.

The \$150 kit from Wisdom Panel claims to test for over 350 breeds of dogs and analyze over 25 health conditions. Wisdom Panel markets itself as the “world's most accurate dog DNA test service,” and boasts over 98 per cent accuracy.

Another company also markets its test as the most accurate dog DNA test. The most expensive test, purchased for \$288, is from Embark, a Boston-based company and research partner of Cornell University.

Marketplace also purchased DNA kits from two Canadian companies. A kit from Toronto-based DNA My Dog cost \$113 at the time of purchasing in August 2022. At the time, the company claimed to test for around 100 breeds. Now, the company offers different products at different prices, and says it tests for over 350 breeds. Even when advertising under 100 breeds, the company still advertised between 97 and 99% accuracy.

The final and least-expensive test was purchased from Accu-metrics, also known as Viaguard, for \$80. CBC previously reported on the company for providing DNA results of Indigenous ancestry for a chihuahua and three non-Indigenous individuals. The company no longer advertises Indigenous ancestry testing, but does advertise paternity testing, drug testing and fingerprinting services.

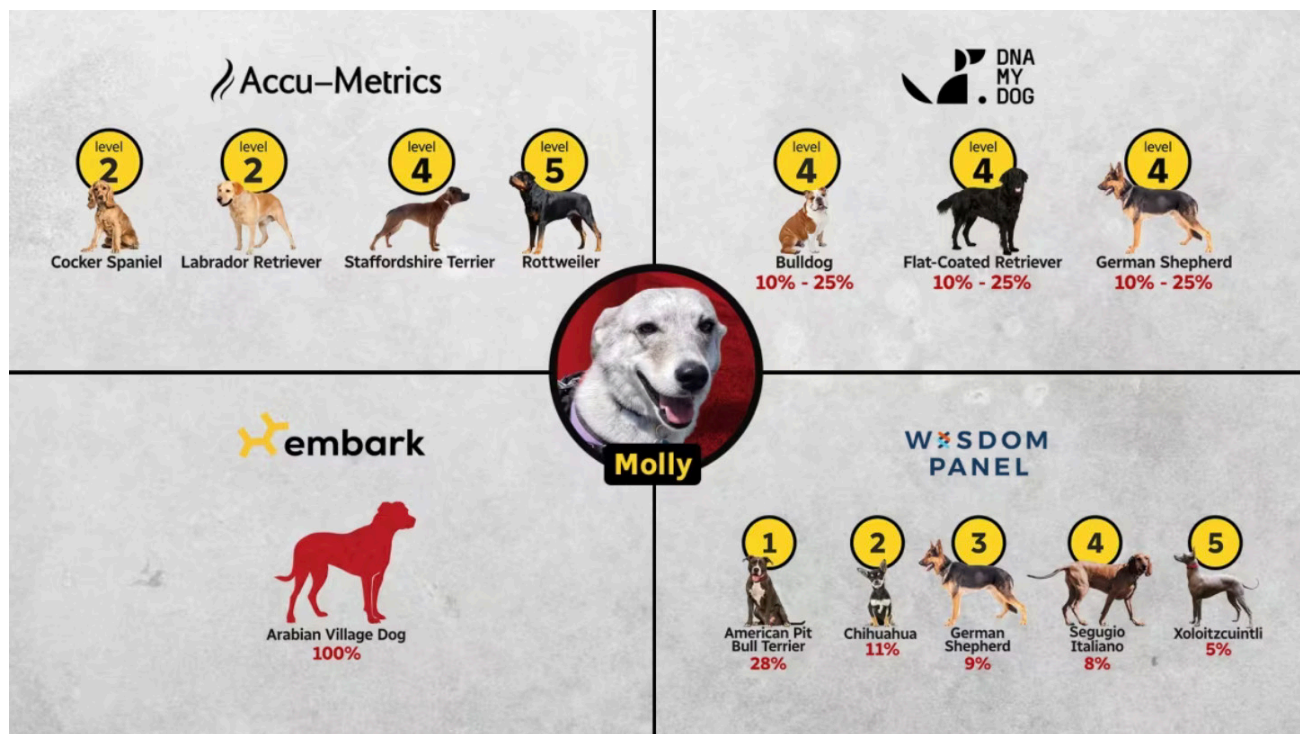
All companies asked for a variety of information when submitting samples, including the dog’s age, a photograph and in some cases a suspected breed. In most cases, the information was optional to include and Marketplace did not answer.

Due to the questionable results provided by Accu-metrics that CBC previously reported on, Marketplace told the company Quinn, a 52-kilogram Great Dane, was suspected to be a chihuahua, a breed known to be between one and three kilograms. When prompted to enter a suspected breed, Marketplace told Accu-metrics and DNA My Dog that a human sample, provided by Dhanraj, was suspected to be a Central Asian shepherd dog.

THE RESULTS

In nearly every case, the companies provided different results for each submitted sample.

DNA My Dog identified Molly’s DNA as having Level 4 bulldog, flat-coated retriever and German shepherd. Level 4, according to the company, represents 10 to 25% of that dog’s DNA, and says the breeds are passed down from grandparents and up to great-great grandparents.



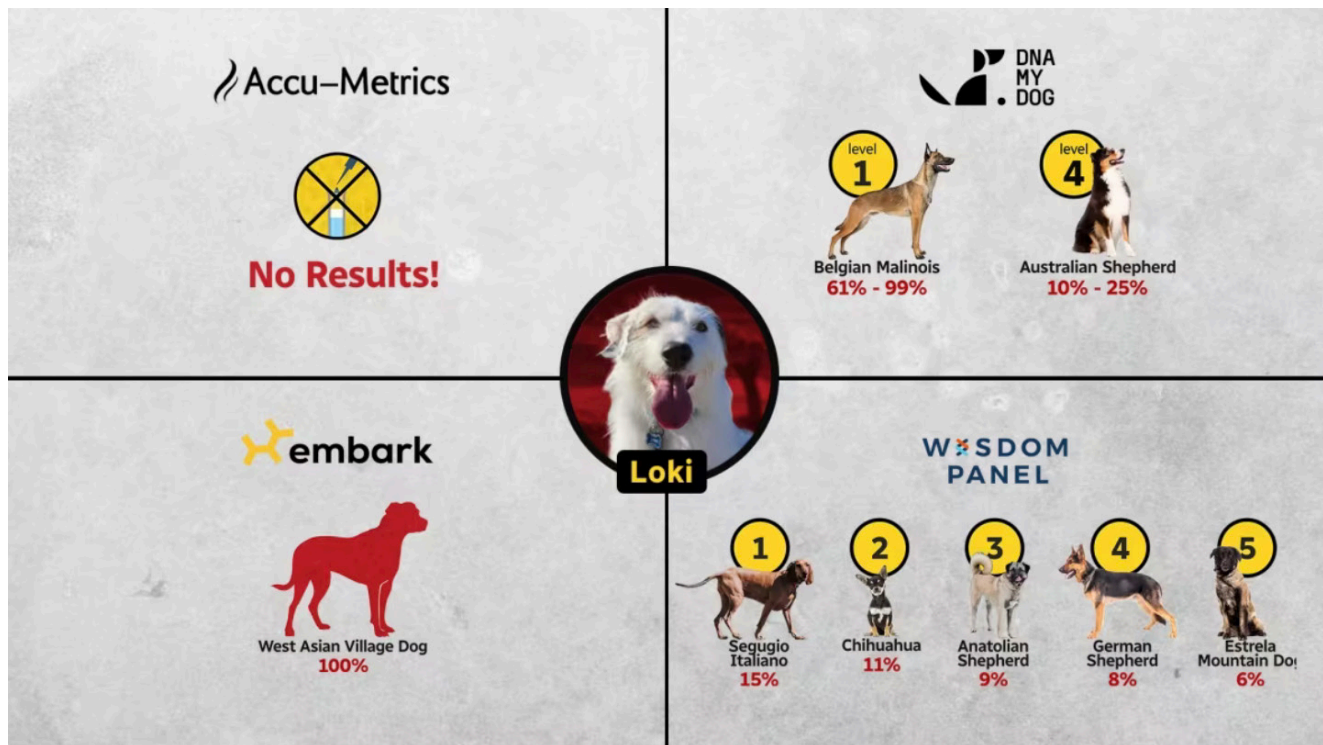
Accu-metrics also uses a level system, with Level 1 being a higher percentage of DNA — 75% and above, and Level 5 being 5% DNA or less. The company said Molly’s DNA was identified as containing Level 2 cocker spaniel and Labrador retriever, Level 4 American Staffordshire terrier and Level 5 rottweiler. The company suggests one side of Molly’s lineage is purebred cocker spaniels.

Wisdom Panel by far provided the most in-depth breed breakdown on Molly, suggesting it detected 19 breeds in her DNA. The most prevalent breeds were pit bull, chihuahua, German shepherd, Segugio Italiano and xoloitzcuintli, a Mexican dog known for being hairless.

Embark only identified one breed in Molly: 100% Arabian village dog, a breed not recognized by Canadian, American or European kennel clubs. The company says a village dog is a breed that predates recognized breeds, and whose ancestors are indigenous to a region.

“I was hoping for a lot of clarity but I’m more confused now,” said Burbidge upon hearing the results. “What are they doing? What are they testing to get all these different results? Why are they so different if it’s genetic?”

Loki received similar results as Molly, with no company identifying the same breed in his DNA.



DNA My Dog identified Loki as Level 1 Belgian malinois and Level 4 Australian shepherd. Level 1, according to the company, means the majority of that dog’s DNA comes from that breed. Belgian malinois dogs are known to be high-energy working dogs, often suited for police work.

“He’s medium to low energy,” said Yip Arnette, laughing. “He sleeps a lot.”

Accu-metrics did not provide test results for Loki, despite submitting samples over 11 weeks prior. On the date of publishing, Accu-metrics still had not provided Loki’s results.

Wisdom Panel identified 23 breeds in Loki’s DNA, including Segugio Italiano, chihuahua and Anatolian shepherd dog.

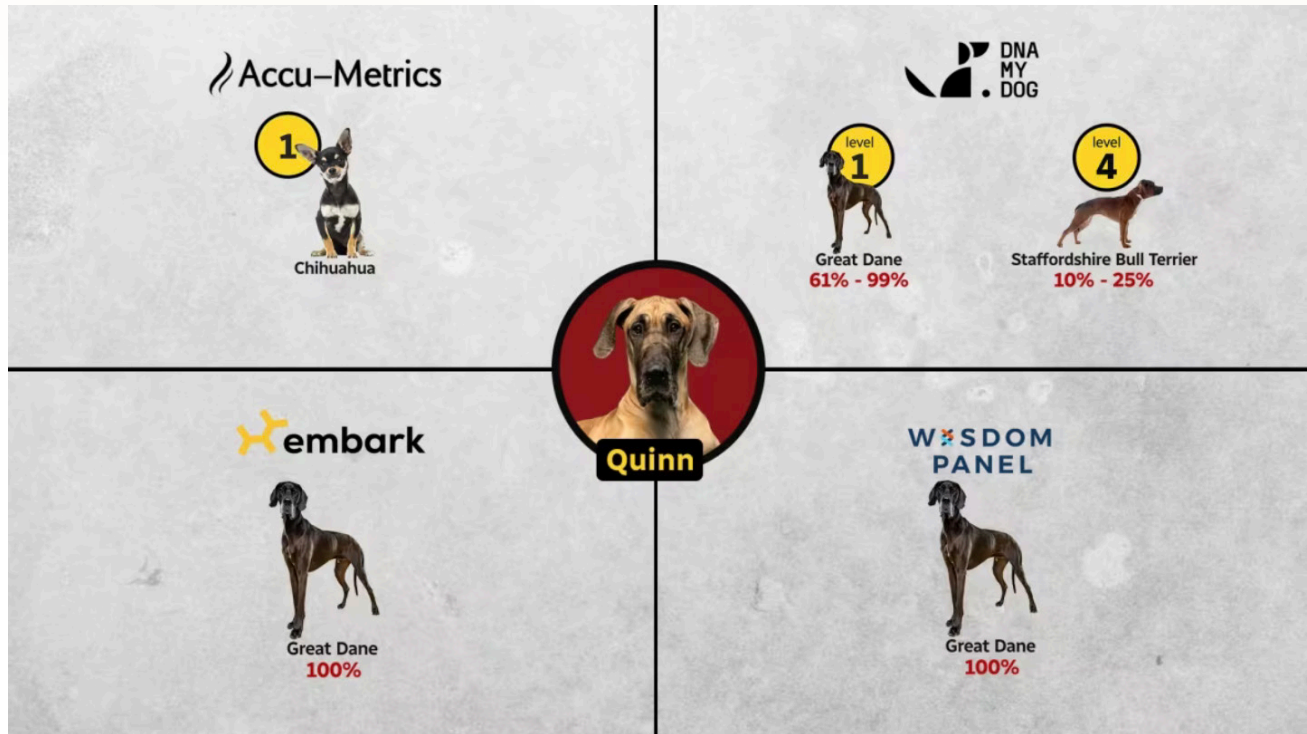
Embark identified Loki as 100% West Asian village dog. “At least they’re getting the region accurate,” said Yip Arnette. “It’s disappointing.... It’s not telling us anything we didn’t know when we sent in the test.”

Karlsson says the difference in results likely amounts to which breeds and how many samples are in each company’s databases. Like human DNA companies, samples are compared to each company’s individual reference sets. If a dog has the genetic makeup of a rare breed, Karlsson says the company might not pick up on it.

“The way the algorithm works is it’s like, well, I didn’t find a match, so I’m going to go find the next closest thing and just sort of make a guess, and that’s where it can get inaccurate,” said Karlsson.

But Karlsson says purebred dogs are easier to detect and identify. For Quinn, Wisdom Panel and Embark both said she is 100% Great Dane, but DNA My Dog said she was also Level 4 Staffordshire terrier.

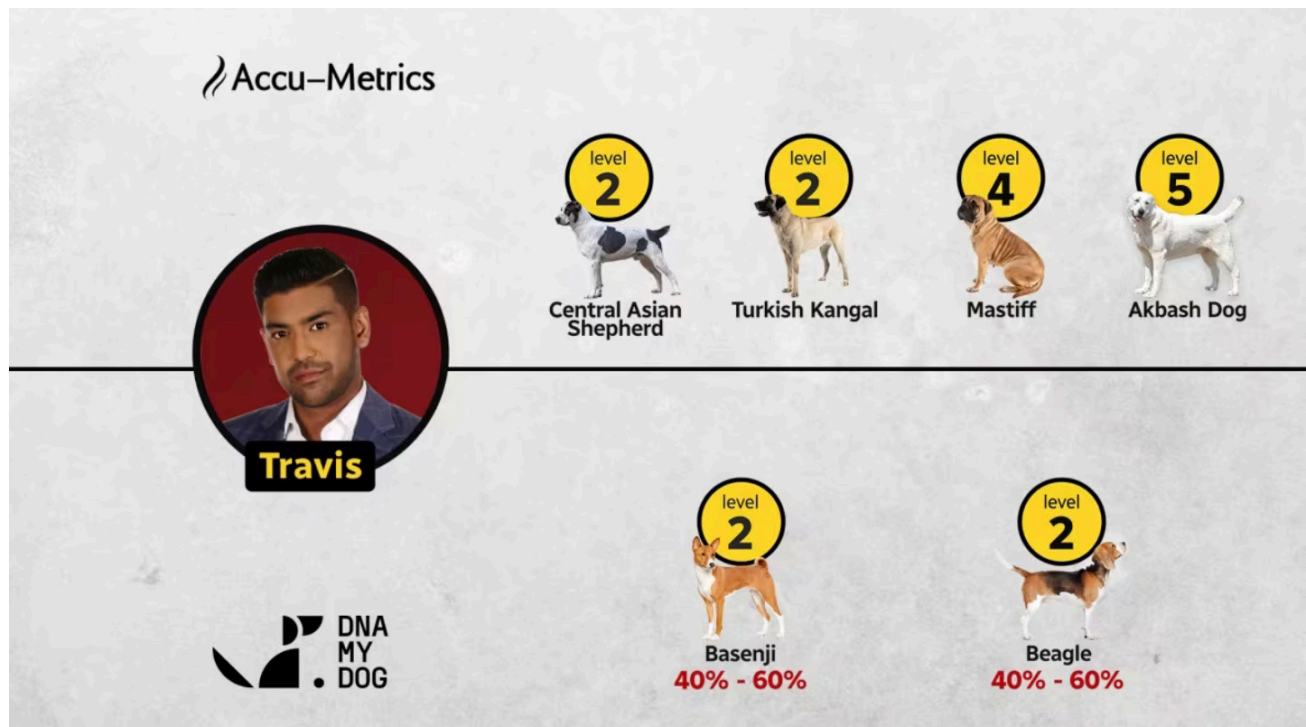
Weger didn’t buy those results, and says Quinn’s winning results at dog shows, where she competes to be the best and healthiest representation of the Great Dane breed, speak for themselves.



Accu-metrics identified Quinn as 100% chihuahua, the same breed Marketplace told the company 52-kilogram Quinn was suspected of being. Chihuahuas typically weigh no more than 2.7 kilograms.

According to experts in genetics, human DNA submitted to a lab testing for dog DNA should result in an error, and not in any type of dog breed. However, after submitting the DNA of Dhanraj, two companies identified his DNA as belonging to specific breeds.

DNA My Dog identified Dhanraj as Level 2 basenji and Level 2 beagle. According to the company, Level 2 could mean one of Dhanraj's parents was purebred.



Accu-metrics identified Dhanraj's DNA as the same breed that Marketplace told the company it "suspected" the breed was: Level 2 Central Asian shepherd dog. As well, it identified Level 2 Turkish kangal, Level 4 mastiff and Level 5 akbash.

“I’m going to have to have some hard discussions with my parents,” joked Dhanraj.

Karlsson was shocked at the results. “The fact that you’re getting breed calls back when you sent the human sample would make me very hesitant to use that company for doing dog testing.”

Results from Embark and Wisdom Panel both said testing failed on the human sample.

THE COMPANIES RESPOND

When Marketplace reached out to the companies, all of them said they stood behind their science.

In an email statement, Accu-metrics said Dhanraj’s result was likely from mixing up sample ID numbers, but that the dog results were likely due to cross-contamination during sampling or shipping. The company wrote that it “cannot jump to any conclusions prematurely” and offered to re-test newly submitted samples, and said it has a refund policy “on any flawed tests.” It also said results should be interpreted with the understanding that there is a margin for error.

DNA My Dog said that since Marketplace’s samples were submitted, it has more than doubled its breed database from 100 to 350 breeds, and it has “implemented a more comprehensive and robust testing platform” to eliminate human error. However, it says that its old testing methods were still “highly accurate,” those 100 breeds tested “sufficiently covered the most popular breeds in North America,” and if a sample contained DNA of a breed not covered in its database, the closest available match would be assigned to it, “which was typical of the industry.”

The company said that assigning breeds to Dhanraj’s DNA was due to human error. On Quinn’s results, the company said the small percentage of Staffordshire bull terrier is likely remaining DNA from “even before great-great grandparents.”

Wisdom Panel says its science is openly available for anyone to see on its website, and while results can vary between companies, its error rates are lower than the industry standard.

Finally, Embark says Molly and Loki descended from populations that existed longer than modern dog breeds and it is proud to be the only company that specializes in village dogs. The company says if other companies report mixed-breed results, those do not reflect the dog’s actual ancestry.

While Karlsson is excited consumers are becoming interested in DNA, she warns them to take results with a grain of salt. “At the end of the day, the way an animal behaves or an animal’s health status is a combination of really complicated genetics, but also the environment that they grow up in. And so DNA is only really part of the story.”

That’s how Burbidge sees it. “It doesn’t make any difference to me truly what breed she is.... It doesn’t change the way I feel about her,” she said of Molly. “She’s my dog and I’m just going to love her just the way she is no matter what.”

Jenny Cowley. March 4, 2023. CBC News. www.cbc.ca/news/business/marketplace-dog-dna-test-1.6763274?fbclid=IwAR3Y_Xh3nYGr7-KBM7VThXP5QsjUrxrUM1HlJBwZx32dSrbxaszan2eR4bY

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