

Doggie DNA can tell mutt's ancestry

Information about its heritage can help with training and health-care issues

By *DENISE FLAIM*
Newsday

The doggie euphemism "all-American" was coined as a more polite way to say "mutt."

It never caught on, and perhaps just as well. After a boxer named Tasha lent her DNA to scientists to map the dog genome in 2005, advances in canine genetics have continued with as much speed as a border collie on an agility course. Today, at least two companies are offering DNA tests to identify the ancestors in a mixed breed's background. And the potential market is huge; roughly half of all dogs in the U.S. are mixes.

The better-known of the two tests is the Mars Wisdom Panel MX (www.whatsmydog.com or www.wisdompanel.com). Compared to its competitor, the cheek-swab-based Canine Heritage Breed Test (www.metamorphixinc.com, \$79.95), which can identify 38 potential breeds, the Mars test uses a blood sample and encompasses 130 purebreds. That's 27 dogs short of all the breeds recognized by the American Kennel Club, but it's significantly less than the 335 breeds that have gotten the nod from the Federation Cynologique Internationale. (So if you suspect your pooch is part Anglo-Francais de Petite Venerie, fuggedaboutit.)

Because it requires a blood draw, the Mars test (it was developed by the candy company that also owns Pedigree) is available only through vets' offices. Prices are determined by vets and range from \$100 to \$200.

It may improve health

Paul Jones, senior genetics leader for Mars Veterinary, says that, curiosity aside, knowing the breeds in your dog's heritage can help you in other areas, such as health care and training — another reason the company made the vet's office the portal for the test. Eventually, he says, Mars Veterinary hopes to offer health-related genetics tests, either by developing its own or by licensing those owned by others.

The Mars test is based on the DNA of 13,000 dogs from around the globe. "Designer dog" breeds such as Labradoodles and puggles also were represented. Not included among the 8,000 purebreds analyzed was the pit bull, though the Mars test does have the American Staffordshire terrier, which is a subset of the pit.

Sorting through the known genetic markers in each dog, Jones and his team narrowed their test down to 316 core genetic markers that can tell breeds apart, as opposed to those shared across breeds.

The Mars test claims a 95 percent accuracy rate — that is, it is sensitive enough to detect 95 percent of the material that is there.

But its interpretation of that data — the fancy term is "positive predictive value" — is 84 percent.

"The key thing is if you are missing a breed (in the DNA database), you can get it wrong," says Jones, adding that the test is looking to add new breeds all the time.