

Who's your doggy daddy?

BITSA™ Breed Identification

Is your dog a crossbred, a bitser, a mongrel, a mixed-breed... a mutt? There are any number of words to describe a dog who is not purebred, and who has the characteristics of two or more breeds – and as many owners to testify that they can be the best pets. Now, for the first time, your veterinarian can help you to unlock the secrets of your dog's breed history.

BITSA™ (Breed Identification Through Scientific Analysis) uses a simple cheek swab to collect a sample of your dog's genetic material. This DNA is cross-referenced against an extensive genetic database to provide a breed signature unique to your dog.

WHAT IS THE IMPORTANCE OF FINDING OUT YOUR DOG'S BREED?

DOG BEHAVIOUR

A dog's behaviour is genetically imprinted, dictated by centuries of breeding. Most people select a purebred dog based on that breed's known behavioural characteristics – be it a very active breed that likes exercise, or a true lap dog that is happy just to be with the family. Prospective dog owners are always encouraged to learn all about the behavioural traits of the breed before they make the important choice of a family pet.

When a crossbred dog joins your family, learning their genetic makeup can give insight into their behaviour and personality. Finding out your beautiful puppy is part Border Collie will not change his behaviour, but it will help you understand his exercise and training requirements, and if things are not going as well as you had hoped may even prompt you to seek help from a professional dog trainer with a better understanding of his needs.

Many 'SPCA specials' are Staffordshire Bull Terrier, Bull Terrier, Mastiff or similar crosses. These are beautiful dogs, but often need proper training for them to be wonderful pets. The number one reason for dogs to be euthanased in New Zealand is for behavioural problems, and as one behaviour expert puts it: 'Many dog behaviour problems come from the fact that a dog is a victim of his genetic make-up.'

GENETIC DISEASE

Some health problems are hereditary – passed on genetically from the parents. As veterinary medicine progresses, there is a focus on the genetic understanding of disease, which enables us to predict problems and sometimes put measures in place to slow or prevent disease. A genetic predisposition to disease does not mean that every dog with that breed composition

will develop the disease, but understanding a pet's potential to develop a certain condition allows for more effective health monitoring during their lifetime.

Examples of how breed knowledge could help in the health care of pets include:

Von Willebrand's disease (VWD) is a common inherited bleeding disorder. The disease is most common in the Doberman, and fairly common in the Scottish Terrier and the Shetland Sheepdog. If a pet shows abnormal bleeding following a surgery or accident, knowing it had these breeds in the genetic make-up would quickly steer the vet towards testing and treating for this problem.

Mast cell tumours are cancerous growths that can occur as skin tumours on dogs. Certain breeds are predisposed to developing them including the Beagle, Boston Terrier, Boxer, Bulldog, Bullmastiff, Bull Terrier, Dachshund, English Setter, Fox Terrier, Golden Retriever, Labrador Retriever, Schnauzer and Weimaraner. Although all skin growths should be identified to ensure they are not dangerous, knowing a dog was one of these breeds may make our vigilance even greater.

Drug sensitivities: Collie-type dogs (including all Collies, Australian Shepherds and some Sheepdogs) can carry a genetic mutation that makes them sensitive to certain drugs. Use of those drugs can cause serious neurological illness or death. There is a DNA test that identifies whether a dog has this mutation – this test would be recommended if your pet required these drugs and was known to have Collie parentage.

Progressive Retinal Atrophy is an inherited disease of the retina of the eye that commonly results in blindness. Knowing a dog is a breed that is genetically predisposed to this problem would be useful in directing the best veterinary care if visual problems occur.

CURIOSITY AND FUN

And lastly, it is fun to know what our dogs are! As one owner says: 'I think we always knew Reginald was primarily a Rottweiler, but glad this was acknowledged; if anything so we don't look like fools, as that's what we tell everyone!'



Pinto

thinks there may be Staffie involved: 'He lies with his legs out behind him, just like other Staffies I have seen.'

And possibly some Pointer. 'He does a real point when he sees birds.'

Murphy is a very easy-going dog, and a great family pet. He is lucky in that Duncan is a shift worker, so he has company most of the day. But on the odd occasion that he is left on his own in the back yard, Murphy has just started exhibiting a new (and very unwelcome!) behaviour ... jumping over the fence. As Duncan builds higher fences, perhaps he is pondering if that is Boxer or even Labrador behaviour?

RUBY

Owner Katherine says of her dog Ruby: 'Ruby was from the SPCA as a baby, but her first family had to move overseas and couldn't take her with them. We instantly fell in love!



Ruby

Meet our three BITSA dogs — find out their test results over the page.

PINTO

The SPCA was told by Pinto's previous owners that he was a Schnauzer Terrier cross, so they had already turned away prospective owners that were not able to provide him with enough exercise and training. The Noble family has really enjoyed having Pinto for the last year, but he does have a willful nature that has made training him a steady process. The family are fairly confident that his BITSA test will come back confirming he is a Terrier cross.

MURPHY

The Daysh family got Murphy from the SPCA as an older puppy. Duncan attributes some of his behaviour to being mildly institutionalised: 'He is a great dog with people and with other dogs — he is everyone's friend. But a lot of common daily activities and noises have been new and a bit frightening to him — he can be easily side-tracked.'

The SPCA guess was that Murphy is a Boxer Labrador cross. However, Duncan



Murphy

'We think Ruby has Boxer in her as her body is very Boxer-like and so is her personality. My husband thinks Boxer crossed with Dalmatian to account for the spots and the longer face. I can see American Bulldog in her colouring (though not many people know what an American bulldog looks like), and with her swimming and fetch obsession she possibly also has some Labrador in her.

'Ruby loves swimming at the beach and playing ball. She is very intelligent, learning new tricks fast, but always falls for the "fake throw" as she just gets so excited if its play time!

'Our cats Max and Molly came to us as four-week-old abandoned kittens. Ruby instantly saw them as her babies and has looked after them ever since. They often all sleep together, except when both cats are taking up her whole bed and she has to sleep on the floor.

'As she is a good size we use her as a blood donor dog at work [Katherine is a vet]. Even though she looks tough she is a bit of a wimp and we have to sedate her lightly as she is scared of the big needle!

What do you get with the BITSA test?

BITSA can currently identify 62 breeds, and other breeds are being added all the time. The Dog Breed Specificity Report that is returned to you includes:

- The breeds found in your dog's ancestry
- A history of how each breed was developed

- A PAWS rating system summarising the traits you may observe in your dog
- Health concerns affecting the breed or breeds found in your dog
- Games and activities your dog may enjoy

Your vet will discuss your dog's BITSA report with you, and in particular any

health management issues that may arise from their genetic predisposition.

Knowing your dog's breed history can be an important influence on how you interact, train and care for your pet. The more you understand the breed make-up, the better placed you are to respond to your dog's individual needs.

The BITSA results are in...

PINTO

Pinto's results show secondary amounts of Boston Terrier, and distant amounts of Australian Cattle Dog. The secondary amounts mean the parents were mixed breed with this breed or the grandparents were this breed, and distant amounts again means mixed breed or great grandparent genes.

Of all the results, Pinto's were the least definite, and show it is important to have realistic expectations of the test. In this case, although the BITSA breed list is extensive, and is being added to all the time, it does not include Schnauzer, so only picked up on the Terrier side (and more distant relatives) from Pinto's lineage.

MURPHY

Murphy's results show secondary Bulldog, and secondary Great Dane – and like Ruby, that Murphy is a true out-cross dog (a result of many generations of crossbred parentage).

Owners Duncan and Kylie were surprised by these results, as they had not considered either of these breeds before. Temperament wise though, Murphy is a very placid and gentle natured dog, which does fit strongly with both of these breed profiles. And another vet who saw Murphy's photo but has never met him, without seeing the test results, said: 'That dog looks like a Great Dane'.

Duncan is very keen to get the full BITSA profile that is in the post to him, to see how Murphy fits with his genetic profile in terms of both his nature, and any possible breed-related health problems that should be monitored for.

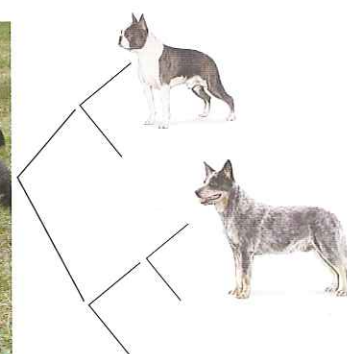
RUBY

Ruby's results show secondary Boxer and Australian Cattle Dog, and small amounts of many other breeds. This means that Ruby had a purebred grandparent that was one of these breeds, or that she has mixed breed parentage with high levels of these breeds present (her parents were Boxer or Cattle Dog cross).

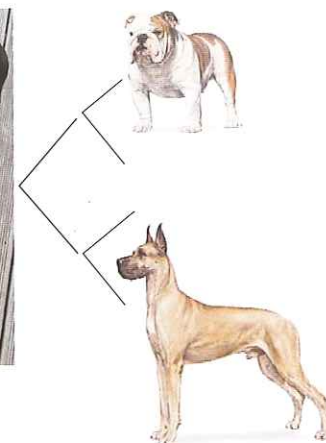
Katherine says: 'Ruby plays just like a Boxer. She loves to play with other Boxers jumping up at each other and "talking". She also loves to sit as close to you as possible, on your feet if she can! – which we have found to be a Boxer trait.

'Cattle dog type traits? She is very obedient and really easy to train. She is great at agility (a very good jumper), though we have only ever done it for fun. She also gets extremely focused on her ball toys, to the point she will ignore other dogs if we have her ball in our hands. She will continually bring us her ball back, drop it at our feet and stare at it, till we throw it – she would do it all day if we let her. We call it her ball obsession. We love her and think she is beautiful no matter what!'

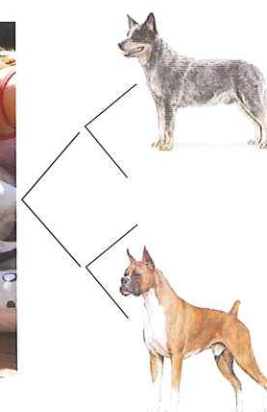
Pinto



Murphy



Ruby



BITSATM

Breed Identification



animal
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www.gribblesvets.co.nz

Fetch the inside word on your dog's breed history

BITSA breed identification is a non invasive DNA test that allows you to find out who your dog really is. Discover the breeds in your dog's ancestry along with accurate health and behaviour information. For more information talk to your Veterinarian