



1/5/2014

MyDogDNA PASS

8700 2321 8931 359

Tupã do Terra de Vera Cruz, Terrier Brasileiro

**Registered name:** Tupã do Terra de Vera Cruz

**Nickname:** Tupã

**Registration ID:** RG/PRG/03/04065

**Microchip:** XXX

**Breed:** Terrier Brasileiro

**Gender:** Male

**Owner:** Mauro Sérgio Carvalho

Prizibela

**Country:** Brazil

**Testing date:** 30/4/2014



**DNA identification profile:**

Identified with standard ISAG markers

### Test results - Known disorders in the breed

Disorder	Type	Mode of inheritance	Result
Mucopolysaccharidosis Type VII (MPSVII); mutation originally found in Brazilian Terrier	Metabolic disorders	Autosomal Recessive	Clear
Malignant Hyperthermia (MH)	Pharmacogenetics	Autosomal Dominant	Clear

### Test results - New potential disorders in the breed

Disorder	Type	Mode of inheritance	Result
Canine Multifocal Retinopathy 1 (cmr1), Mastiff-related breeds mutation	Eye disorders	Autosomal Recessive	Clear

*When obtaining a carrier or affected test result, we recommend that you contact your veterinarian for more detailed information on the condition and possible treatment.*

*On behalf of Genoscooper Laboratories,*

  
SIGNATURE

Jonas Donner, PhD, Head of Research and Development  
at Genoscooper Laboratories



1/5/2014

MyDogDNA PASS

8700 2321 8931 359

Tupã do Terra de Vera Cruz, Terrier Brasileiro

**Registered name:** Tupã do Terra de Vera Cruz

**Nickname:** Tupã

**Registration ID:** RG/PRG/03/04065

**Microchip:** XXX

**Breed:** Terrier Brasileiro

**Gender:** Male

**Owner:** Mauro Sérgio Carvalho

Prizibela

**Country:** Brazil

**Testing date:** 30/4/2014



**DNA identification profile:**  
Identified with standard ISAG  
markers

## Test results - Traits

Trait	Genotype	Description
Colour Locus A	at/at	The dog is homozygous for at-allele.
Colour Locus B	B/B    B/bd    bd/bd	The dog does not carry any of the tested b alleles.
Colour Locus E	Em/E	The dog is heterozygous for EM allele and E allele.
Colour Locus H	h/h	The dog is homozygous for h allele.
Colour Locus K	ky/ky	The dog is homozygous for ky allele.
Furnishings / Improper Coat in Portuguese Water Dogs (marker test)	GG/TC	The dog is not genetically likely to express furnishings.
Body mass, insulin-like growth factor 1 (IGF1) gene variant	A/A	The dog is homozygous for the genetic variant typically associated with small body mass. This genotype is common e.g. in Yorkshire Terrier, Chihuahua and Chinese Crested Dogs.
Coat length	G/G	The dog carries two copies of the genetic variant typically associated with a short-haired coat.
Curly coat	C/C	The dog is genetically non-curly.
Ear erectness (pricked ears versus floppy ears), variant chr10:11072007	T/T	The dog is homozygous and carries two copies of a genetic variant typically associated with pricked ears. This genotype is common in breeds like Finnish Spitz, German Shepherd, Samoyed, Terriers and in Collie-related breeds.
Natural Bobtail (T-box mutation)	C/G	The dog has a natural bobtail. It carries one copy of the bobtail mutation and one copy of the genetic variant associated with normal tail length.
Snout/skull length (shortened head versus elongated head), bone morphogenetic protein 3 (BMP3) gene variant	C/C	Your dog is homozygous for the genetic variant typically found in breeds with an elongated head (e.g. Saluki, Collie, Irish Wolfhound).
Tiny size, insulin-like growth factor 1 receptor (IGF1R) gene variant	G/G	Your dog is homozygous for a genetic variant typically found in larger-sized breeds (height at the withers > 25.4 cm (10 inches)).

On behalf of Genoscooper Laboratories,

  
SIGNATURE

Jonas Donner, PhD, Head of Research and Development  
at Genoscooper Laboratories

**Test results - Additional disorders found in other breeds - page 1/6****Blood disorders**

<b>Disorder</b>	<b>Mode of inheritance</b>	<b>Result</b>
Bleeding disorder due to P2RY12 defect	Autosomal Recessive	Clear
Canine Cyclic Neutropenia (Gray Collie Syndrome)	Autosomal Recessive	Clear
Factor IX Deficiency or Haemophilia B, Gly379Glu mutation	X-linked Recessive	Clear
Factor IX Deficiency or Haemophilia B; mutation originally found in Lhasa Apso	X-linked Recessive	Clear
Factor VII Deficiency	Autosomal Recessive	Clear
Factor VIII deficiency or Haemophilia A; mutation originally found in German Shepherd	X-linked Recessive	Clear
Glanzmann Thrombasthenia (GT), Type I; mutation originally found in Pyrenean Mountain Dog	Autosomal Recessive	Clear
Glycogen Storage Disease VII or Hereditary Phosphofructokinase (PFK) Deficiency	Autosomal Recessive	Clear
May-Hegglin Anomaly (MHA)	Autosomal Dominant	Clear
Pyruvate Kinase Deficiency of Erythrocyte; mutation originally found in Beagle	Autosomal Recessive	Clear
Pyruvate Kinase Deficiency of Erythrocyte; mutation originally found in Labrador Retriever	Autosomal Recessive	Clear
Pyruvate Kinase Deficiency of Erythrocyte; mutation originally found in Pug	Autosomal Recessive	Clear
Pyruvate Kinase Deficiency of Erythrocyte; mutation originally found in West Highland White Terrier	Autosomal Recessive	Clear
Trapped Neutrophil Syndrome (TNS)	Autosomal Recessive	Clear

**Cardiological disorders**

<b>Disorder</b>	<b>Mode of inheritance</b>	<b>Result</b>
Dilated Cardiomyopathy; mutation originally found in Doberman Pinscher (USA)	Autosomal Dominant	Clear

**Test results - Additional disorders found in other breeds - page 2/6****Endocrine disorders****Disorder**

Hypothyroidism; mutation originally found in Tenterfield Terrier  
Hypothyroidism; mutation originally found in Toy Fox- and Rat Terrier

**Mode of inheritance**

Autosomal Recessive  
Autosomal Recessive

**Result**

Clear  
Clear

**Eye disorders****Disorder**

Achromatopsia or Cone Degeneration (CD); mutation originally found in German Shorthaired Pointer  
Autosomal Dominant Progressive Retinal Atrophy (ADPRA)  
Canine Multifocal Retinopathy 2 (cmr2); mutation originally found in Coton de Tulear  
Canine Multifocal Retinopathy 3 (cmr3); mutation originally found in Lapponian Herder  
Cone-rod Dystrophy 1 (cord1-PRA)  
Cone-rod dystrophy (crd SWD); mutation originally found in Standard Wire-haired Dachshund  
Generalized Progressive Retinal Atrophy; mutation originally found in Schapendoes  
Golden Retriever Progressive Retinal Atrophy 1 (GR\_PRA 1)  
Primary Hereditary Cataract (PHC); mutation originally found in Australian Shepherd  
Primary Lens Luxation (PLL)  
Primary Open Angle Glaucoma; mutation originally found in Beagle  
Rod-Cone Dysplasia 1 (rcd1); mutation originally found in Irish Setter  
Rod-Cone Dysplasia 1a (rcd1a); mutation originally found in Sloughi  
Rod-Cone Dysplasia 3 (rcd3)  
X-Linked Progressive Retinal Atrophy 1 (XLPR1)

**Mode of inheritance**

Autosomal Recessive  
Autosomal Dominant  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Dominant (Incomplete Penetrance)  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
X-linked Recessive

**Result**

Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear

**Test results - Additional disorders found in other breeds - page 3/6****Immunological disorders**

Disorder	Mode of inheritance	Result
ARSCID (Autosomal Recessive Severe Combined Immunodeficiency)	Autosomal Recessive	Clear
C3 deficiency	Autosomal Recessive	Clear
X-linked Severe Combined Immunodeficiency (XSCID); mutation originally found in Basset Hound	X-linked Recessive	Clear
X-linked Severe Combined Immunodeficiency (XSCID); mutation originally found in Cardigan Welsh Corgi	X-linked Recessive	Clear

**Kidney disorders**

Disorder	Mode of inheritance	Result
Hyperuricosuria and Hyperuricemia (HUU) or Urolithiasis	Autosomal Recessive	Clear
Polycystic Kidney Disease (PKD)	Autosomal Dominant	Clear
Primary hyperoxaluria (PH); mutation originally found in Coton de Tulear	Autosomal Recessive	No call
X-linked Hereditary Nephropathy (XLHN)	X-linked Recessive	Clear

**Metabolic disorders**

Disorder	Mode of inheritance	Result
Glycogen Storage Disease, Type Ia (GSDIa)	Autosomal Recessive	Clear
Glycogen Storage Disease, type II or Pompe's disease	Autosomal Recessive	Clear
Glycogen Storage Disease, type IIIa (GSDIIIa)	Autosomal Recessive	Clear
Hypocatalasia or Acatlasemia	Autosomal Recessive	Clear
Mucopolysaccharidosis Type IIIA (MPSIIIA); mutation originally found in Dachshund	Autosomal Recessive	Clear
Mucopolysaccharidosis Type VI (MPSVI); mutation originally found in Poodle	Autosomal Recessive	No call
Pyruvate Dehydrogenase Deficiency	Autosomal Recessive	Clear

**Test results - Additional disorders found in other breeds - page 4/6****Muscular disorders**

Disorder	Mode of inheritance	Result
Cavalier King Charles Spaniel Muscular Dystrophy (CKCS-MD)	X-linked Recessive	Clear
Duchenne-like Muscular Dystrophy, Pembroke Welsh Corgi-type	X-linked Recessive	Clear
Muscular Dystrophy, Duchenne type or Golden Retriever Muscular Dystrophy (GRMD)	X-linked Recessive	Clear
Myotonia; mutation originally found in Miniature Schnauzer	Autosomal Recessive	Clear
Myotubular Myopathy 1 or X-linked Myotubular Myopathy	X-linked Recessive	Clear

**Neurological disorders**

Disorder	Mode of inheritance	Result
Benign Familial Juvenile Epilepsy or Remitting Focal Epilepsy	Autosomal Recessive	Clear
Cerebellar abiotrophy or neonatal cerebellar cortical degeneration (NCCD)	Autosomal Recessive	Clear
Fetal-onset Neuroaxonal Dystrophy (FNAD)	Autosomal Recessive	Clear
L-2-Hydroxyglutaric aciduria (L2HGA); mutation 1 originally found in Staffordshire Bull Terrier	Autosomal Recessive	Clear
L-2-Hydroxyglutaric aciduria (L2HGA); mutation 2 originally found in Staffordshire Bull Terrier	Autosomal Recessive	Clear
L-2-hydroxyglutaric Aciduria (L2HGA), Yorkshire Terrier mutation	Autosomal Recessive	Clear
Neonatal Encephalopathy with Seizures (NEWS)	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 1 (NCL1)	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 10 (NCL10)	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 2 (NCL2)	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis 6 (NCL6)	Autosomal Recessive	Clear
Neuronal Ceroid Lipofuscinosis, type 12, mutation originally found in Tibetan terrier	Autosomal Recessive	No call
Polyneuropathy; mutation originally found in Alaskan Malamute	Autosomal Recessive	Clear
Polyneuropathy; mutation originally found in Greyhound	Autosomal Recessive	Clear
Progressive early-onset cerebellar ataxia; mutation originally found in Finnish Hound	Autosomal Recessive	Clear

**Test results - Additional disorders found in other breeds - page 5/6****Neuromuscular disorders****Disorder**

Alpha Fucosidosis  
Episodic falling (EF)  
GM1 Gangliosidosis; mutation originally found in Alaskan Husky  
GM1 Gangliosidosis; mutation originally found in Portuguese Water Dog  
GM1 Gangliosidosis; mutation originally found in Shiba Dog  
GM2 Gangliosidosis; mutation originally found in Toy Poodle  
Globoid Cell Leukodystrophy (GLD) or Krabbe's disease, Terrier mutation  
Globoid Cell Leukodystrophy (GLD) or Krabbe's disease; mutation originally found in Irish Setter  
Hyperekplexia or Startle Disease

**Mode of inheritance**

Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive  
Autosomal Recessive

**Result**

Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear  
Clear

**Skeletal disorders****Disorder**

Chondrodysplasia (dwarfism); mutation originally found in Norwegian Elkhound and Karelian Bear Dog  
Cranio-mandibular Osteopathy (CMO)  
Osteogenesis imperfecta (OI) or Brittle Bone Disease; mutation originally found in Dachshund  
Skeletal Dysplasia 2 (SD2)

**Mode of inheritance**

Autosomal Recessive  
Autosomal Dominant  
Autosomal Recessive  
Autosomal Recessive

**Result**

Clear  
Clear  
Clear  
Clear



1/5/2014

MyDogDNA PASS

8700 2321 8931 359

Tupã do Terra de Vera Cruz, Terrier Brasileiro

## Test results - Additional disorders found in other breeds - page 6/6



### Skin disorders

Disorder	Mode of inheritance	Result
Ectodermal dysplasia or Skin Fragility Syndrome (ED-SFS)	Autosomal Recessive	Clear
Epidermolysis bullosa, dystrophic	Autosomal Recessive	Clear
Epidermolytic Hyperkeratosis or Ichthyosis in Norfolk Terrier	Autosomal Recessive	Clear
Lamellar Ichthyosis (LI)	Autosomal Recessive	Clear
Musladin-Lueke syndrome (MLS)	Autosomal Recessive	Clear

### Other disorders

Disorder	Mode of inheritance	Result
Congenital Keratoconjunctivitis Sicca and Ichthyosiform Dermatitis (CKCSID) or Dry Eye Curly Coat Syndrome	Autosomal Recessive	Clear
Gallbladder Mucocele Formation	Autosomal Dominant	Clear
Narcolepsy; mutation originally found in Dobermann	Autosomal Recessive	Clear
Persistent Mullerian Duct Syndrome (PMDS), mutation originally found in Miniature Schnauzer	Autosomal Recessive	Clear
Primary Ciliary Dyskinesia (PCD)	Autosomal Recessive	Clear

On behalf of Genoscooper Laboratories,

  
 \_\_\_\_\_  
 SIGNATURE

Jonas Donner, PhD, Head of Research and Development at Genoscooper Laboratories





1/5/2014

MyDogDNA PASS

8700 2321 8931 359

Tupã do Terra de Vera Cruz, Terrier Brasileiro



## APPENDIX Explanation of the results of the tested disorders

### Autosomal recessive inheritance (ARI)

*Clear* - A dog carries no copies of the tested mutation and has no or reduced likelihood of developing and passing on the disease/condition.

*Carrier* - A dog carries one copy of the tested mutation. Carriers typically have a normal, healthy appearance but pass on the mutation to approximately 50% of their offspring.

*Affected* - A dog carries two copies of the tested mutation and is at high or increased risk of developing the disease/condition.

### Autosomal dominant inheritance (ADI)

*Clear* - A dog carries no copies of the tested mutation and has no or reduced likelihood of developing and passing on the disease/condition.

*Affected* - A dog carries one or two copies of the tested mutation and is at high or increased risk of developing the disease/condition.

### X-linked recessive inheritance (X-linked)

*Clear* - A dog carries no copies of the tested mutation and has no or reduced likelihood of developing and passing on the disease/condition.

*Carrier* - Female carriers typically have a normal, healthy appearance but carry one copy of the tested mutation on one of their X chromosomes. As males only have one X chromosome, there are no male carriers.

*Affected* - Affected female dogs carry two mutated copies of the tested mutation. Affected males carry one copy of the tested mutation on their single X chromosome. Affected dogs are at high or increased risk of developing the disease/condition.

Please note that the descriptions above are generalized based on typically observed inheritance patterns. When obtaining a carrier or affected test result, always refer to the corresponding online test documentation for more detailed information on the condition and any exceptions.

## Genoscooper Laboratories - Legal Notice

Genoscooper Laboratories' MyDogDNA services and test results are produced based on samples and materials supplied by the Client. Testing and analysis is performed by using methods and processes that Genoscooper Laboratories deems appropriate. Genoscooper Laboratories reserves the right to make changes in the collection of the single-gene tests included in the MyDogDNA testing service as well as to remove results derived from them, if new information comes available that in any way questions the validity of the test results. Results provided by Genoscooper Laboratories are prepared solely for the use of the Client.

For further information, please visit: [www.mydogdna.com/legal-notices](http://www.mydogdna.com/legal-notices)