

Honey Cinnamon Spice
Registration: TS52894903



Sample ID: PNPWGV
Test Date: 3/24/2024
Premium

DNA Test Report

Owner Info

First Name Tami	Last Name Landon
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Pet Info

Registered Name Honey Cinnamon Spice	Date of Birth 11/1/2021
Nickname (Call Name) Honey Cinnamon Spice	Sample ID PNPWGV
Sex Female	Registration TS52894903
	Microchip ID N/A
	Tattoo ID N/A

DNA Test Report

Genetic Diversity (Heterozygosity)

Honey Cinnamon Spice's Percentage of Heterozygosity

34%

Honey Cinnamon Spice's genome analysis shows an average level of genetic heterozygosity when compared with other Shih Tzus.

Typical Range for Shih Tzus

26 - 37%

DNA Test Report

Health Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Centronuclear Myopathy (Discovered in the Labrador Retriever)	PTPLA	Insertion	0	Clear
Cerebellar Ataxia	RAB24	A>C	0	Clear
Cerebellar Cortical Degeneration	SNX14	C>T	0	Clear
Cerebellar Hypoplasia	VLDLR	Deletion	0	Clear
Cerebral Dysfunction	SLC6A3	G>A	0	Clear
Chondrodysplasia (Discovered in Norwegian Elkhound and Karelian Bear Dog)	ITGA10	C>T	0	Clear
Cleft Lip & Palate with Syndactyly	ADAMTS20	Deletion	0	Clear
Cleft Palate	DLX6	C>A	0	Clear
CNS Atrophy with Cerebellar Ataxia (Discovered in the Belgian Shepherd)	SEPP1	Deletion	0	Clear
Coat Color Dilution and Neurological Defects (Discovered in the Miniature Dachshund)	MYO5A	Insertion	0	Clear
Complement 3 Deficiency	C3	Deletion	0	Clear
Cone Degeneration (Discovered in the Alaskan Malamute)	CNGB3	Deletion	0	Clear
Cone Degeneration (Discovered in the German Shepherd Dog)	CNGA3	C>T	0	Clear
Cone Degeneration (Discovered in the German Shorthaired Pointer)	CNGB3	G>A	0	Clear
Cone-Rod Dystrophy	NPHP4	Deletion	0	Clear
Cone-Rod Dystrophy 1	PDE6B	Deletion	0	Clear
Cone-Rod Dystrophy 2	IQCB1	Insertion	0	Clear
Congenital Cornification (Discovered in the Labrador Retriever)	NSDHL	Deletion	0	Clear
Congenital Dysmorphogenetic Hypothyroidism with Goiter (Discovered in the Shih Tzu)	SLC5A5	G>A	0	Clear
Congenital Eye Malformations (Discovered in the Golden Retriever)	SIX6	C>T	0	Clear
Congenital Hypothyroidism (Discovered in the Tenterfield Terrier)	TPO	C>T	0	Clear

DNA Test Report

Health Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Dental-Skeletal-Retinal Anomaly (Discovered in the Cane Corso)	MIA3	I>S	0	Clear
Dilated Cardiomyopathy (Discovered in the Schnauzer)	RBM20	Deletion	0	Clear
Disproportionate Dwarfism (Discovered in the Dogo Argentino)	PRKG2	C>A	0	Clear
Dominant Progressive Retinal Atrophy	RHO	C>G	0	Clear
Dystrophic Epidermolysis Bullosa (Discovered in the Basset Hound)	COL7A1	Insertion	0	Clear
Dystrophic Epidermolysis Bullosa (Discovered in the Central Asian Ovcharka)	COL7A1	C>T	0	Clear
Dystrophic Epidermolysis Bullosa (Discovered in the Golden Retriever)	COL7A1	C>T	0	Clear
Early Retinal Degeneration (Discovered in the Norwegian Elkhound)	STK38L	Insertion	0	Clear
Early-Onset Adult Deafness (Discovered in the Rhodesian Ridgeback)	EPS8L2	Deletion	0	Clear
Early-Onset Progressive Polyneuropathy (Discovered in the Alaskan Malamute)	NDRG1	G>T	0	Clear
Early-Onset Progressive Polyneuropathy (Discovered in the Greyhound)	NDRG1	Deletion	0	Clear
Early-Onset Progressive Retinal Atrophy (Discovered in the Portuguese Water Dog)	Confidential	—	0	Clear
Early-Onset Progressive Retinal Atrophy, (Discovered in the Spanish Water Dog)	PDE6B	Deletion	0	Clear
Ehlers-Danlos Syndrome (Discovered in mixed breed)	COL5A1	G>A	0	Clear
Ehlers-Danlos Syndrome (Discovered in the Labrador Retriever)	COL5A1	Deletion	0	Clear
Epidermolytic Hyperkeratosis	KRT10	G>T	0	Clear
Episodic Falling Syndrome	BCAN	Insertion	0	Clear
Exercise-Induced Collapse	DNM1	G>T	0	Clear
Factor VII Deficiency	F7	G>A	0	Clear
Factor XI Deficiency	FXI	Insertion	0	Clear
Familial Nephropathy (Discovered in the English Cocker Spaniel)	COL4A4	A>T	0	Clear
Familial Nephropathy (Discovered in the English Springer Spaniel)	COL4A4	C>T	0	Clear

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Health Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Hemophilia B (Discovered in the Airedale Terrier)	FIX	Insertion	0	Clear
Hemophilia B (Discovered in the Lhasa Apso)	FIX	Deletion	0	Clear
Hereditary Ataxia (Discovered in the Belgian Malinois)	SLC12A6	Insertion	0	Clear
Hereditary Ataxia (Discovered in the Norwegian Buhund)	KCNIP4	T>C	0	Clear
Hereditary Calcium Oxalate Urolithiasis, Type I	Confidential	—	0	Clear
Hereditary Elliptocytosis	SPTB	C>T	0	Clear
Hereditary Footpad Hyperkeratosis	FAM83G	G>C	0	Clear
Hereditary Nasal Parakeratosis (Discovered in the Greyhound)	SUV39H2	Deletion	0	Clear
Hereditary Nasal Parakeratosis (Discovered in the Labrador Retriever)	SUV39H2	A>C	0	Clear
Hereditary Vitamin D-Resistant Rickets Type II	VDR	Deletion	0	Clear
Hyperuricosuria	SLC2A9	G>T	0	Clear
Hypocatalasia	CAT	G>A	0	Clear
Hypomyelination	FNIP2	Deletion	0	Clear
Hypophosphatasia	Confidential	—	0	Clear
Ichthyosis (Discovered in the American Bulldog)	NIPAL4	Deletion	0	Clear
Ichthyosis (Discovered in the Great Dane)	SLC27A4	G>A	0	Clear
Ichthyosis Type 2 (Discovered in the Golden Retriever)	ABHD5	Deletion	0	Clear
Inflammatory Myopathy (Discovered in the Dutch Shepherd Dog)	SLC25A12	A>G	0	Clear
Inflammatory Pulmonary Disease (Discovered in the Rough Collie)	AKNA	Deletion	0	Clear
Intestinal Cobalamin Malabsorption (Discovered in the Beagle)	CUBN	Deletion	0	Clear
Intestinal Cobalamin Malabsorption (Discovered in the Border Collie)	CUBN	Deletion	0	Clear
Intestinal Cobalamin Malabsorption (Discovered in the Komondor)	CUBN	G>A	0	Clear

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Health Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
May-Hegglin Anomaly	MYH9	G>A	0	Clear
MDR1 Medication Sensitivity	MDR1/ABCB1	Deletion	0	Clear
Microphthalmia (Discovered in the Soft-Coated Wheaten Terrier)	RBP4	Deletion	0	Clear
Mucopolysaccharidosis Type IIIA (Discovered in the Dachshund)	SGSH	C>A	0	Clear
Mucopolysaccharidosis Type IIIA (Discovered in the New Zealand Huntaway)	SGSH	Insertion	0	Clear
Mucopolysaccharidosis Type VII (Discovered in the Brazilian Terrier)	GUSB	C>T	0	Clear
Mucopolysaccharidosis Type VII (Discovered in the German Shepherd Dog)	GUSB	G>A	0	Clear
Mucopolysaccharidosis VI (Discovered in the Miniature Pinscher)	ARSB	G>A	0	Clear
Muscular Dystrophy (Discovered in the Cavalier King Charles Spaniel)	Dystrophin	G>T	0	Clear
Muscular Dystrophy (Discovered in the Golden Retriever)	Dystrophin	A>G	0	Clear
Muscular Dystrophy (Discovered in the Landseer)	COL6A1	G>T	0	Clear
Muscular Dystrophy (Discovered in the Norfolk Terrier)	Dystrophin	Deletion	0	Clear
Muscular Dystrophy-Dystroglycanopathy (Discovered in the Labrador Retriever)	LARGE	C>T	0	Clear
Muscular Hypertrophy (Double Muscling)	MSTN	T>A	0	Clear
Musladin-Lueke Syndrome	ADAMTSL2	C>T	0	Clear
Myeloperoxidase Deficiency	MOP	C>T	0	Clear
Myotonia Congenita (Discovered in Australian Cattle Dog)	CLCN1	Insertion	0	Clear
Myotonia Congenita (Discovered in the Labrador Retriever)	CLCN1	T>A	0	Clear
Myotonia Congenita (Discovered in the Miniature Schnauzer)	CLCN1	C>T	0	Clear
Myotubular Myopathy	MTM1	A>C	0	Clear
Narcolepsy (Discovered in the Dachshund)	HCRT2	G>A	0	Clear
Narcolepsy (Discovered in the Labrador Retriever)	HCRT2	G>A	0	Clear

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Health Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Paroxysmal Dyskinesia	PIGN	C>T	0	Clear
Persistent Müllerian Duct Syndrome	AMHR2	C>T	0	Clear
Phosphofructokinase Deficiency	PFKM	G>A	0	Clear
Pituitary Dwarfism (Discovered in the Karelian Bear Dog)	POU1F1	C>A	0	Clear
Polycystic Kidney Disease	PKD1	G>A	0	Clear
Prekallikrein Deficiency	KLKB1	T>A	0	Clear
Primary Ciliary Dyskinesia	CCDC39	C>T	0	Clear
Primary Ciliary Dyskinesia (Discovered in the Alaskan Malamute)	NME5	Deletion	0	Clear
Primary Lens Luxation	ADAMTS17	G>A	0	Clear
Primary Open Angle Glaucoma (Discovered in Basset Fauve de Bretagne)	ADAMTS17	G>A	0	Clear
Primary Open Angle Glaucoma (Discovered in Petit Basset Griffon Vendeen)	ADAMTS17	Insertion	0	Clear
Primary Open Angle Glaucoma and Lens Luxation (Discovered in Chinese Shar-Pei)	ADAMTS17	Deletion	0	Clear
Progressive Early-Onset Cerebellar Ataxia	SEL1L	T>C	0	Clear
Progressive Retinal Atrophy (Discovered in the Basenji)	SAG	T>C	0	Clear
Progressive Retinal Atrophy (Discovered in the Golden Retriever - GR-PRA 2 variant)	TTC8	Deletion	0	Clear
Progressive Retinal Atrophy (Discovered in the Golden Retriever - GR-PRA1 variant)	SLC4A3	Insertion	0	Clear
Progressive Retinal Atrophy (Discovered in the Lapponian Herder)	IFT122	C>T	0	Clear
Progressive Retinal Atrophy (Discovered in the Lhasa Apso)	Confidential	—	0	Clear
Progressive Retinal Atrophy (Discovered in the Papillon and Phalène)	CNGB1	Deletion	0	Clear
Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog - BBS2 variant)	Confidential	—	0	Clear
Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog - CNGA1 variant)	CNGA1	Deletion	0	Clear

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Health Conditions Tested (continued)

Genetic Condition	Gene	Risk Variant	Copies	Result
Spinocerebellar Ataxia with Myokymia and/or Seizures	KCNJ10	C>G	0	Clear
Spondylocostal Dysostosis	HES7	Deletion	0	Clear
Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois - SDCA1)	KCNJ10	T>C	0	Clear
Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois - SDCA2)	ATP1B2	Insertion	0	Clear
Stargardt Disease (Discovered in the Labrador Retriever)	ABCA4	Insertion	0	Clear
Startle Disease (Discovered in Irish Wolfhounds)	SLC6A5	G>T	0	Clear
Startle Disease (Discovered in the Miniature American Shepherd)	Confidential	—	0	Clear
Succinic Semialdehyde Dehydrogenase Deficiency (Discovered in the Saluki)	ALDH5A1	G>A	0	Clear
Thrombopathia (Discovered in the Basset Hound)	RASGRP1	Deletion	0	Clear
Thrombopathia (Discovered in the Eskimo Spitz)	RASGRP1	—	0	Clear
Trapped Neutrophil Syndrome	VPS13B	Deletion	0	Clear
Van den Ende-Gupta Syndrome	SCARF2	Deletion	0	Clear
von Willebrand's Disease, type 1	VWF	G>A	0	Clear
von Willebrand's Disease, type 2	VWF	T>G	0	Clear
von Willebrand's Disease, type 3 (Discovered in the Kooiker Hound)	VWF	G>A	0	Clear
von Willebrand's Disease, type 3 (Discovered in the Scottish Terrier)	VWF	Deletion	0	Clear
von Willebrand's Disease, type 3 (Discovered in the Shetland Sheepdog)	VWF	Deletion	0	Clear
X-Linked Ectodermal Dysplasia	EDA	G>A	0	Clear
X-Linked Hereditary Nephropathy (Discovered in the Navasota Dog)	COL4A5	Deletion	0	Clear
X-Linked Hereditary Nephropathy (Discovered in the Samoyed)	COL4A5	G>T	0	Clear
X-Linked Myotubular Myopathy	MTM1	C>A	0	Clear

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Coat Color

Genetic Trait	Gene	Variant	Copies	Result
Fawn	ASIP	a ^y	2	Fawn possible
Recessive Black	ASIP	a	0	No effect
Tan Points	ASIP	a ^t	0	No effect
Dominant Black	CBD103	K ^B	1	Black or brindle possible
Sable (Discovered in the Cocker Spaniel)	Confidential	—	0	No effect
Mask	MC1R	E ^m	2	Dark Muzzle possible
Recessive Red (e1)	MC1R	e ¹	0	No effect
Recessive Red (e2)	MC1R	e ²	0	No effect
Recessive Red (e3)	MC1R	e ³	0	No effect
Widow's Peak (Discovered in Ancient dogs)	MC1R	e ^A	0	No effect
Widow's Peak (Discovered in the Afghan Hound and Saluki)	MC1R	E ^G	0	No effect

Color Modification

Genetic Trait	Gene	Variant	Copies	Result
Cocoa (Discovered in the French Bulldog)	HPS3	co	0	No effect
Red Intensity	MFSD12	i	1	No effect
Dilution (d1) Linkage test	MLPH	d ¹	0	No effect
Dilution (d2)	MLPH	d ²	0	No effect
Dilution (d3)	MLPH	d ³	0	No effect
Chocolate (basd)	TYRP1	b ^{asd}	0	No effect
Chocolate (bc)	TYRP1	b ^c	0	No effect
Chocolate (bd)	TYRP1	b ^d	0	No effect

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Hairlessness (continued)

Genetic Trait	Gene	Variant	Copies	Result
Hairlessness (Discovered in the American Hairless Terrier)	SGK3	hr ^{ah}	0	No effect
Hairlessness (Discovered in the Scottish Deerhound)	SKG3	hr ^{sd}	0	No effect

Shedding

Genetic Trait	Gene	Variant	Copies	Result
Reduced Shedding	MC5R	sd	2	Low shedder

More Coat Traits

Genetic Trait	Gene	Variant	Copies	Result
Hair Ridge	FGF3, FGF4, FGF19, ORAOV1	R	0	No effect
Furnishings	RSPO2	F	2	Furnishings likely
Albino	SLC45A2	c ^{al}	0	No effect

Head Shape

Genetic Trait	Gene	Variant	Copies	Result
Short Snout (BMP3 variant)	BMP3	-	1	No effect
Short Snout (SMOC2 variant)	SMOC2	-	2	Shortened snout likely

Eye Color

Genetic Trait	Gene	Variant	Copies	Result
Blue Eyes (Discovered in the Siberian Husky)	ALX4	-	0	No effect