

# Sugar House's Uriel



Breed: Whippet

Test date: 2025-01-10

Microchip number: 250268781051467

ID kit: DQJRKLW

Birth date: 2023-12-31

## Sugar House's Uriel's Profile

### Pet information

**Registered name**

Sugar House's Uriel

**Sex**

M

**Owner reported breed**

Whippet

**Date of birth**

2023-12-31

**Microchip number**

250268781051467

### Genetic Diversity

**Sugar House's Uriel's Percentage of Heterozygosity**

25%

### Health summary

At Risk 0 conditions

Carrier 0 conditions

Clear 272 conditions

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## Genetic Diversity

### Heterozygosity

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#### Sugar House's Uriel's Percentage of Heterozygosity

25%

This may make him more susceptible to genetic health complications when compared with other Whippets.

#### Typical Range for Whippets

27% - 36%

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## Health conditions known in the breed

### Collie Eye Anomaly (CEA)

Gene	Risk Variant	Copies	Inheritance	Result
NHEJ1	Deletion	0	AR	<b>Clear</b>

#### Information about the genetic condition

Collie Eye Anomaly is primarily characterized by choroidal hypoplasia, leading to an underdeveloped vascular supply to the retina, and is especially visible temporal to the optic nerve. CEA lesions may be present in both eyes or asymmetric in nature. CEA-associated choroidal hypoplasia is non-progressive and usually does not cause visual deficits on its own. However, CEA has a range of clinical expressions. Vision impairment is more likely in dogs with the "extended CEA phenotype," which may include optic nerve head colobomas, retinal detachment or intraocular hemorrhage secondary to coloboma(s) in severely affected dogs. Optic nerve head colobomas appear as excavations of the optic disc surface. Diagnosis of CEA lesions should be completed before 10 weeks of age, as retinal pigmentation can mask choroidal hypoplasia as the puppies grow, a phenomenon termed "go normal" by breeders. Research is ongoing to determine what additional genetic factors may be present that influence the range of severity seen in dogs with CEA.

#### Breeder recommendation

This disorder is autosomal recessive, meaning two copies of the variant are needed for a dog to be at an elevated risk for being diagnosed with the condition. A carrier dog with one copy of the Collie Eye Anomaly variant can be safely bred with a clear dog with no copies of the Collie Eye Anomaly variant. About half of the puppies will have one copy (carriers) and half will have no copies of the variant. Furthermore, a dog with two copies of the CEA variant can be safely bred with a clear dog. The resulting puppies will all be carriers. Puppies in a litter which is expected to contain carriers should be tested prior to breeding. Carrier to carrier matings are not advised as the resulting litter may contain affected puppies. Please note: Recent research has suggested that additional genetic risk factors likely exist in some breeds that resemble or contribute to CEA risk, especially the more severe disorder expression. It is possible that disorder signs similar to the ones associated with this CEA variant could develop due to a different genetic or clinical cause.

### Muscular Hypertrophy (Double Muscling)

Gene	Risk Variant	Copies	Inheritance	Result
MSTN	T>A	0	AR	<b>Clear</b>

#### Information about the genetic condition

Dogs that are homozygous for the mutation are highly over-muscled. Heavily muscled Whippets, also called "Bully Whippets", have broad chests and unusually well-developed leg and neck musculature. Bully Whippets can easily be distinguished from their normal littermates based on physical appearance. Double muscled Whippets don't seem to have any health problems other than occasional muscle cramping.

#### Breeder recommendation

Breeding for the double muscle appearance is not advised as dogs that are over-muscled may have impaired movement. A carrier dog with one copy of the Muscular Hypertrophy mutation can be safely bred with a clear dog with no copies of the Muscular Hypertrophy mutation. About half of the puppies will have one copy (carriers) and half will have no copies of the Muscular Hypertrophy mutation. Puppies in a litter which is expected to contain carriers should be tested prior to breeding. Carrier to carrier matings are not recommended for this condition as the resulting litter may contain dogs with the double muscle phenotype. Please note: It is possible that signs similar to the ones caused by the Muscular Hypertrophy mutation could develop due to a different genetic or clinical cause.

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## Health conditions known in the breed

Phosphofructokinase Deficiency	Gene	Risk Variant	Copies	Inheritance	Result
	PFKM	G>A	0	AR	<b>Clear</b>

### Information about the genetic condition

Dogs suffering from PFK deficiency display hemolytic anemia (breakdown of red blood cells) especially with alkaline blood. Barking or panting, rigorous exercising, or high environmental temperature may trigger the clinical signs by increasing the body's pH value. This may lead to a hemolytic crisis causing anemia, fatigue, and fever. Affected dogs can also show pigmenturia and jaundice after an episode. Other milder clinical signs include muscle weakness and reduced exercise tolerance. Cardiac problems have also been observed in Whippets.

### Breeder recommendation

This disease is autosomal recessive meaning that two copies of the mutation are needed for disease signs to occur. A carrier dog with one copy of the PFK mutation can be safely bred with a clear dog with no copies of the PFK mutation. About half of the puppies will have one copy (carriers) and half will have no copies of the PFK mutation. Puppies in a litter which is expected to contain carriers should be tested prior to breeding. Carrier to carrier matings are not advised as the resulting litter may contain affected puppies. Please note: It is possible that disease signs similar to the ones caused by the PFK mutation could develop due to a different genetic or clinical cause.

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## Traits

### Coat Color

	Gene	Variant	Copies	Result
<b>Fawn</b> Copies of this variant will cause dogs to show fawn if they do not have other variant that will mask this effect, such as a plain red, black or white coat.	ASIP	a <sup>v</sup>	2	Fawn possible
<b>Recessive Black</b>	ASIP	a	0	No effect
<b>Tan Points</b>	ASIP	a <sup>t</sup>	0	No effect
<b>Dominant Black</b>	CBD103	K <sup>B</sup>	0	No effect
<b>Mask</b>	MC1R	E <sup>m</sup>	0	No effect
<b>Recessive Red (e1)</b>	MC1R	e <sup>1</sup>	0	No effect
<b>Recessive Red (e2)</b>	MC1R	e <sup>2</sup>	0	No effect
<b>Recessive Red (e3)</b>	MC1R	e <sup>3</sup>	0	No effect
<b>Sable (Discovered in the Cocker Spaniel)</b>	MC1R	e <sup>H</sup>	0	No effect
<b>Widow's Peak (Discovered in Ancient dogs)</b>	MC1R	e <sup>A</sup>	0	No effect
<b>Widow's Peak (Discovered in the Afghan Hound and Saluki)</b>	MC1R	E <sup>G</sup>	0	No effect

### Color Modification

	Gene	Variant	Copies	Result
<b>Cocoa (Discovered in the French Bulldog)</b>	HPS3	co	0	No effect
<b>Red Intensity</b> Dogs with two copies of the Red Intensity variant are more likely to show yellow, cream or white coat shades instead of deeper red shades. If the dog does not display solid red or red coat patterns, there will be no visible effect. Other genes, notably variants in the KITLG gene, are also thought to contribute to red pigment intensity variation, so some dogs may have yellow or buff colored coats.	MFSD12	i	2	White to yellow coat shades likely
<b>Dilution (d1) Linkage test</b>	MLPH	d <sup>1</sup>	0	No effect

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## Color Modification

	Gene	Variant	Copies	Result
<b>Dilution (d2)</b>	MLPH	d <sup>2</sup>	0	No effect
<b>Dilution (d3)</b>	MLPH	d <sup>3</sup>	0	No effect
<b>Chocolate (basd)</b>	TYRP1	b <sup>asd</sup>	0	No effect
<b>Chocolate (bc)</b>	TYRP1	b <sup>c</sup>	0	No effect
<b>Chocolate (bd)</b>	TYRP1	b <sup>d</sup>	0	No effect
<b>Chocolate (be)</b>	TYRP1	b <sup>e</sup>	0	No effect
<b>Chocolate (bh)</b>	TYRP1	b <sup>h</sup>	0	No effect
<b>Chocolate (bs)</b>	TYRP1	b <sup>s</sup>	0	No effect

## Coat Patterns

	Gene	Variant	Copies	Result
<b>Piebald</b> Dog with copies of the Piebald variant are likely to show white spotting, patches and/or a white coat, with two copies having a greater effect than one, although the strength of this effect may be influenced by other genes.	MITF	s <sup>p</sup>	2	Particolor or white markings possible
<b>Merle</b>	PMEL	M	0	No effect
<b>Harlequin</b>	PSMB7	H	0	No effect
<b>Saddle Tan</b> One or two copies of the Saddle Tan variant are needed for the "saddle" to be seen. However the Tan Points variant must also be present. The Saddle Tan variant is actually considered to be the wild type, or default, variant.	RALY	-	2	Saddle possible
<b>Roan (Linkage test)</b>	USH2A	Tr	0	No effect

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## Coat Length and Curl

	Gene	Variant	Copies	Result
Long Hair (lh1)	FGF5	lh <sup>1</sup>	0	No effect
Long Hair (lh2)	FGF5	lh <sup>2</sup>	0	No effect
Long Hair (lh3)	FGF5	lh <sup>3</sup>	0	No effect
Long Hair (lh4)	FGF5	lh <sup>4</sup>	0	No effect
Long Hair (lh5)	FGF5	lh <sup>5</sup>	0	No effect
Curly Coat	KRT71	C	0	No effect

## Hairlessness

	Gene	Variant	Copies	Result
Hairlessness (Discovered in the Chinese Crested Dog) Linkage test	FOXI3	H <sup>rcc</sup>	0	No effect
Hairlessness (Discovered in the American Hairless Terrier)	SGK3	h <sup>raht</sup>	0	No effect
Hairlessness (Discovered in the Scottish Deerhound)	SKG3	h <sup>rsd</sup>	0	No effect

## Shedding

	Gene	Variant	Copies	Result
<b>Reduced Shedding</b> One or two copies of the Reduced Shedding variant is likely to reduce a dog's tendency to shed. Copies of the Furnishings variant, particularly two, also reduce the tendency of a dog to shed.	MC5R	sd	2	Low shedder

## More Coat Traits

	Gene	Variant	Copies	Result
Hair Ridge	FGF3, FGF4, FGF19, ORAOV1	R	0	No effect

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## More Coat Traits

	Gene	Variant	Copies	Result
<b>Furnishings</b>	RSPO2	F	0	No effect
<b>Albino</b>	SLC45A2	cal	0	No effect

## Head Shape

	Gene	Variant	Copies	Result
<b>Short Snout (BMP3 variant)</b>	BMP3	-	0	No effect
<b>Short Snout (SMOC2 variant)</b>	SMOC2	-	0	No effect

## Eye Color

	Gene	Variant	Copies	Result
<b>Blue Eyes (Discovered in the Siberian Husky)</b>	ALX4	-	0	No effect

## Ears

	Gene	Variant	Copies	Result
<b>Floppy Ears</b>	MSRB3	-	0	Pricked ears more likely

## Extra Toes

	Gene	Variant	Copies	Result
<b>Hind Dewclaws (Discovered in Asian breeds)</b>	LMBR1	DC-1	0	No effect
<b>Hind Dewclaws (Discovered in Western breeds)</b>	LMBR1	DC-2	0	No effect

## More Body Features

	Gene	Variant	Copies	Result
<b>Back Muscle and Bulk</b>	ACSL4	-	0	No effect

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## More Body Features

	Gene	Variant	Copies	Result
High Altitude Adaptation	EPAS1	-	0	No effect
Short Legs (Chondrodysplasia, CDPA)	FGF4	-	0	No effect
Short Legs (Chondrodystrophy, CDDY)	FGF4	-	0	No effect
Short Tail	T-box	T	0	Full tail length likely

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<b>2,8-dihydroxyadenine (DHA) Urolithiasis</b>	APRT	G>A	0	AR	Clear
<b>Acral Mutilation Syndrome</b>	GDNF	C>T	0	AR	Clear
<b>Acute Respiratory Distress Syndrome</b>	ANLN	C>T	0	AR	Clear
<b>Alaskan Husky Encephalopathy</b>	SLC19A3	G>A	0	AR	Clear
<b>Alexander Disease</b>	GFAP	G>A	0	AR	Clear
<b>Amelogenesis Imperfecta (Discovered in the Italian Greyhound)</b>	ENAM	Deletion	0	AR	Clear
<b>Amelogenesis Imperfecta (Discovered in the Lancashire Heeler)</b>	Confidential	-	0	AR	Clear
<b>Amelogenesis Imperfecta (Discovered in the Parson Russell Terrier)</b>	ENAM	C>T	0	AR	Clear
<b>Bandera's Neonatal Ataxia</b>	GRM1	Insertion	0	AR	Clear
<b>Benign Familial Juvenile Epilepsy</b>	LGI2	A>T	0	AR	Clear
<b>Bernard-Soulier Syndrome (Discovered in the Cocker Spaniel)</b>	GP9	Deletion	0	AR	Clear
<b>Canine Congenital Stationary Night Blindness (Discovered in the Beagle)</b>	LRIT3	Deletion	0	AR	Clear
<b>Canine Leukocyte Adhesion Deficiency (CLAD), type III</b>	FERMT3	Insertion	0	AR	Clear
<b>Canine Multifocal Retinopathy 1</b>	BEST1	C>T	0	AR	Clear
<b>Canine Multifocal Retinopathy 2</b>	BEST1	G>A	0	AR	Clear
<b>Canine Multifocal Retinopathy 3</b>	BEST1	Deletion	0	AR	Clear
<b>Canine Multiple Systems Degeneration (Discovered in the Chinese Crested Dog)</b>	SERAC1	Deletion	0	AR	Clear
<b>Canine Scott Syndrome</b>	ANO6	G>A	0	AR	Clear
<b>Cardiomyopathy and Juvenile Mortality (Discovered in the Belgian Shepherd)</b>	YARS2	G>A	0	AR	Clear
<b>Centronuclear Myopathy (Discovered in the Great Dane)</b>	BIN1	A>G	0	AR	Clear

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<b>Centronuclear Myopathy (Discovered in the Labrador Retriever)</b>	PTPLA	Insertion	0	AR	Clear
<b>Cerebellar Ataxia</b>	RAB24	A>C	0	AR	Clear
<b>Cerebellar Cortical Degeneration</b>	SNX14	C>T	0	AR	Clear
<b>Cerebellar Hypoplasia</b>	VLDLR	Deletion	0	AR	Clear
<b>Cerebral Dysfunction</b>	SLC6A3	G>A	0	AR	Clear
<b>Chondrodysplasia (Discovered in Norwegian Elkhound and Karelian Bear Dog)</b>	ITGA10	C>T	0	AR	Clear
<b>Chondrodystrophy (CDDY) and Intervertebral Disc Disease (IVDD) Risk</b>	FGF4 retrogene	Insertion	0	AD	Clear
<b>Cleft Lip &amp; Palate with Syndactyly</b>	ADAMTS20	Deletion	0	AR	Clear
<b>Cleft Palate</b>	DLX6	C>A	0	AR	Clear
<b>CNS Atrophy with Cerebellar Ataxia (Discovered in the Belgian Shepherd)</b>	SEPP1	Deletion	0	AR	Clear
<b>Coat Color Dilution and Neurological Defects (Discovered in the Miniature Dachshund)</b>	MYO5A	Insertion	0	AR	Clear
<b>Complement 3 Deficiency</b>	C3	Deletion	0	AR	Clear
<b>Cone Degeneration (Discovered in the Alaskan Malamute)</b>	CNGB3	Deletion	0	AR	Clear
<b>Cone Degeneration (Discovered in the German Shepherd Dog)</b>	CNGA3	C>T	0	AR	Clear
<b>Cone Degeneration (Discovered in the German Shorthaired Pointer)</b>	CNGB3	G>A	0	AR	Clear
<b>Cone-Rod Dystrophy</b>	NPHP4	Deletion	0	AR	Clear
<b>Cone-Rod Dystrophy 1</b>	PDE6B	Deletion	0	AR	Clear
<b>Cone-Rod Dystrophy 2</b>	IQCB1	Insertion	0	AR	Clear
<b>Congenital Cornification (Discovered in the Labrador Retriever)</b>	NSDHL	Deletion	0	XD	Clear

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<b>Congenital Dyshormonogenic Hypothyroidism with Goiter (Discovered in the Shih Tzu)</b>	SLC5A5	G>A	0	AR	Clear
<b>Congenital Eye Malformations (Discovered in the Golden Retriever)</b>	SIX6	C>T	0	AD	Clear
<b>Congenital Hypothyroidism (Discovered in the Tenterfield Terrier)</b>	TPO	C>T	0	AR	Clear
<b>Congenital Hypothyroidism (Discovered in the Toy Fox and Rat Terrier)</b>	TPO	C>T	0	AR	Clear
<b>Congenital Muscular Dystrophy (Discovered in the Italian Greyhound)</b>	LAMA2	G>A	0	AR	Clear
<b>Congenital Muscular Dystrophy (Discovered in the Staffordshire Bull Terrier)</b>	LAMA2	Deletion	0	AR	Clear
<b>Congenital Myasthenic Syndrome (Discovered in the Golden Retriever)</b>	COLQ	G>A	0	AR	Clear
<b>Congenital Myasthenic Syndrome (Discovered in the Heiderterrier)</b>	CHRNE	Insertion	0	AR	Clear
<b>Congenital Myasthenic Syndrome (Discovered in the Jack Russell Terrier)</b>	CHRNE	Insertion	0	AR	Clear
<b>Congenital Myasthenic Syndrome (Discovered in the Labrador Retriever)</b>	COLQ	T>C	0	AR	Clear
<b>Congenital Myasthenic Syndrome (Discovered in the Old Danish Pointer)</b>	CHAT	G>A	0	AR	Clear
<b>Congenital Stationary Night Blindness (CSNB)</b>	RPE65	A>T	0	AR	Clear
<b>Craniomandibular Osteopathy (Discovered in Scottish Terrier breeds)</b>	SLC37A2	C>T	0	AD	Clear
<b>Craniomandibular Osteopathy (Discovered in the Australian Terrier)</b>	COL1A1	C>T	0	AD	Clear
<b>Craniomandibular Osteopathy (Discovered in the Basset Hound)</b>	SLC37A2	C>T	0	AD	Clear
<b>Craniomandibular Osteopathy (Discovered in the Weimaraner)</b>	SLC35D1	Deletion	0	AD	Clear
<b>Cystic Renal Dysplasia and Hepatic Fibrosis</b>	INPP5E	G>A	0	AR	Clear

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<b>Cystinuria Type I-A</b>	SLC3A1	C>T	0	AR	Clear
<b>Cystinuria Type II-A</b>	SLC3A1	Deletion	0	AD	Clear
<b>Darier Disease (Discovered in the Irish Terrier)</b>	ATP2A2	Insertion	0	AD	Clear
<b>Deafness and Vestibular Dysfunction (DINGS1), (Discovered in Doberman Pinscher)</b>	PTPRQ	Insertion	0	AR	Clear
<b>Deafness and Vestibular Dysfunction (DINGS2), (Discovered in Doberman Pinscher)</b>	MYO7A	G>A	0	AR	Clear
<b>Degenerative Myelopathy</b>	SOD1	G>A	0	AR	Clear
<b>Demyelinating Neuropathy</b>	SBF2	G>T	0	AR	Clear
<b>Dental Hypomineralization</b>	FAM20C	C>T	0	AR	Clear
<b>Dental-Skeletal-Retinal Anomaly (Discovered in the Cane Corso)</b>	MIA3	Deletion	0	AR	Clear
<b>Dilated Cardiomyopathy (Discovered in the Schnauzer)</b>	RBM20	Deletion	0	AR	Clear
<b>Disproportionate Dwarfism (Discovered in the Dogo Argentino)</b>	PRKG2	C>A	0	AR	Clear
<b>Dominant Progressive Retinal Atrophy</b>	RHO	C>G	0	AD	Clear
<b>Dystrophic Epidermolysis Bullosa (Discovered in the Basset Hound)</b>	COL7A1	Insertion	0	AR	Clear
<b>Dystrophic Epidermolysis Bullosa (Discovered in the Central Asian Ovcharka)</b>	COL7A1	C>T	0	AR	Clear
<b>Dystrophic Epidermolysis Bullosa (Discovered in the Golden Retriever)</b>	COL7A1	C>T	0	AR	Clear
<b>Early Adult Onset Deafness For Border Collies only (Linkage test)</b>	Intergenic	Insertion	0	AR	Clear
<b>Early Retinal Degeneration (Discovered in the Norwegian Elkhound)</b>	STK38L	Insertion	0	AR	Clear
<b>Early-Onset Adult Deafness (Discovered in the Rhodesian Ridgeback)</b>	EPS8L2	Deletion	0	AR	Clear

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Early-Onset Progressive Polyneuropathy (Discovered in the Alaskan Malamute)	NDRG1	G>T	0	AR	Clear
Early-Onset Progressive Polyneuropathy (Discovered in the Greyhound)	NDRG1	Deletion	0	AR	Clear
Early-Onset Progressive Retinal Atrophy (Discovered in the Portuguese Water Dog)	CCDC66	Insertion	0	AR	Clear
Early-Onset Progressive Retinal Atrophy, (Discovered in the Spanish Water Dog)	PDE6B	Deletion	0	AR	Clear
Ehlers-Danlos Syndrome (Discovered in mixed breed)	COL5A1	G>A	0	AD	Clear
Ehlers-Danlos Syndrome (Discovered in the Labrador Retriever)	COL5A1	Deletion	0	AD	Clear
Epidermolytic Hyperkeratosis	KRT10	G>T	0	AR	Clear
Episodic Falling Syndrome	BCAN	Insertion	0	AR	Clear
Exercise-Induced Collapse	DNM1	G>T	0	AR	Clear
Factor VII Deficiency	F7	G>A	0	AR	Clear
Factor XI Deficiency	FXI	Insertion	0	AD	Clear
Familial Nephropathy (Discovered in the English Cocker Spaniel)	COL4A4	A>T	0	AR	Clear
Familial Nephropathy (Discovered in the English Springer Spaniel)	COL4A4	C>T	0	AR	Clear
Fanconi Syndrome	FAN1	Deletion	0	AR	Clear
Fetal Onset Neuroaxonal Dystrophy	MFN2	G>C	0	AR	Clear
Focal Non-Epidermolytic Palmoplantar Keratoderma	KRT16	G>C	0	AR	Clear
Generalized Progressive Retinal Atrophy (Discovered in the Schapendoes)	CCDC66	Insertion	0	AR	Clear
Glanzmann Thrombasthenia Type I (Discovered in Great Pyrenees)	ITGA2B	C>G	0	AR	Clear
Glanzmann Thrombasthenia Type I (Discovered in mixed breed dogs)	ITGA2B	C>T	0	AR	Clear

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<b>Globoid Cell Leukodystrophy (Discovered in Terriers)</b>	GALC	A>C	0	AR	Clear
<b>Globoid Cell Leukodystrophy (Discovered in the Irish Setter)</b>	GALC	A>T	0	AR	Clear
<b>Glycogen Storage Disease Type Ia (Discovered in the German Pinscher)</b>	G6PC	Insertion	0	AR	Clear
<b>Glycogen Storage Disease Type Ia (Discovered in the Maltese)</b>	G6PC	G>C	0	AR	Clear
<b>Glycogen Storage Disease Type IIIa, (GSD IIIa)</b>	AGL	Deletion	0	AR	Clear
<b>GM1 Gangliosidosis (Discovered in the Portuguese Water Dog)</b>	GLB1	G>A	0	AR	Clear
<b>GM1 Gangliosidosis (Discovered in the Shiba)</b>	GLB1	Deletion	0	AR	Clear
<b>GM2 Gangliosidosis (Discovered in the Japanese Chin)</b>	HEXA	G>A	0	AR	Clear
<b>GM2 Gangliosidosis (Discovered in the Toy Poodle)</b>	HEXB	Deletion	0	AR	Clear
<b>Hemophilia A (Discovered in Old English Sheepdog)</b>	FVIII	C>T	0	XR	Clear
<b>Hemophilia A (Discovered in the Boxer)</b>	FVIII	C>G	0	XR	Clear
<b>Hemophilia A (Discovered in the German Shepherd Dog - Variant 1)</b>	FVIII	G>A	0	XR	Clear
<b>Hemophilia A (Discovered in the German Shepherd Dog - Variant 2)</b>	FVIII	G>A	0	XR	Clear
<b>Hemophilia A (Discovered in the Havanese)</b>	FVIII	Insertion	0	XR	Clear
<b>Hemophilia A (Discovered in the Labrador Retriever)</b>	Confidential	-	0	XR	Clear
<b>Hemophilia B</b>	FIX	G>A	0	XR	Clear
<b>Hemophilia B (Discovered in the Airedale Terrier)</b>	FIX	Insertion	0	XR	Clear
<b>Hemophilia B (Discovered in the Lhasa Apso)</b>	FIX	Deletion	0	XR	Clear
<b>Hereditary Ataxia (Discovered in the Belgian Malinois)</b>	SLC12A6	Insertion	0	AR	Clear
<b>Hereditary Ataxia (Discovered in the Norwegian Buhund)</b>	KCNIP4	T>C	0	AR	Clear

# Sugar House's Uriel

Breed: Whippet

Microchip number: 250268781051467

Birth date: 2023-12-31

Test date: 2025-01-10

ID kit: DQJRKLW



## Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
<b>Hereditary Calcium Oxalate Urolithiasis, Type 1</b>	Confidential	-	0	AR	Clear
<b>Hereditary Elliptocytosis</b>	SPTB	C>T	0	AD	Clear
<b>Hereditary Footpad Hyperkeratosis</b>	FAM83G	G>C	0	AR	Clear
<b>Hereditary Nasal Parakeratosis (Discovered in the Greyhound)</b>	SUV39H2	Deletion	0	AR	Clear
<b>Hereditary Nasal Parakeratosis (Discovered in the Labrador Retriever)</b>	SUV39H2	A>C	0	AR	Clear
<b>Hereditary Vitamin D-Resistant Rickets Type II</b>	VDR	Deletion	0	AR	Clear
<b>Hyperuricosuria</b>	SLC2A9	G>T	0	AR	Clear
<b>Hypocatalasia</b>	CAT	G>A	0	AR	Clear
<b>Hypomyelination</b>	FNIP2	Deletion	0	AR	Clear
<b>Hypophosphatasia</b>	Confidential	-	0	AR	Clear
<b>Ichthyosis (Discovered in the American Bulldog)</b>	NIPAL4	Deletion	0	AR	Clear
<b>Ichthyosis (Discovered in the Great Dane)</b>	SLC27A4	G>A	0	AR	Clear
<b>Ichthyosis Type 2 (Discovered in the Golden Retriever)</b>	ABHD5	Deletion	0	AR	Clear
<b>Inflammatory Myopathy (Discovered in the Dutch Shepherd Dog)</b>	SLC25A12	A>G	0	AR	Clear
<b>Inflammatory Pulmonary Disease (Discovered in the Rough Collie)</b>	AKNA	Deletion	0	AR	Clear
<b>Intestinal Cobalamin Malabsorption (Discovered in the Beagle)</b>	CUBN	Deletion	0	AR	Clear
<b>Intestinal Cobalamin Malabsorption (Discovered in the Border Collie)</b>	CUBN	Deletion	0	AR	Clear
<b>Intestinal Cobalamin Malabsorption (Discovered in the Komondor)</b>	CUBN	G>A	0	AR	Clear
<b>Intestinal Lipid Malabsorption (Discovered in the Australian Kelpie)</b>	ACSL5	Deletion	0	AR	Clear

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## Other health conditions tested

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<b>Junctional Epidermolysis Bullosa (Discovered in the Australian Cattle Dog Mix)</b>	LAMA3	T>A	0	AR	Clear
<b>Junctional Epidermolysis Bullosa (Discovered in the Australian Shepherd)</b>	LAMB3	A>G	0	AR	Clear
<b>Juvenile Cataract (Discovered in the Wirehaired Pointing Griffon)</b>	FYCO1	Deletion	0	AR	Clear
<b>Juvenile Dilated Cardiomyopathy (Discovered in the Toy Manchester Terrier)</b>	ABCC9	G>A	0	AR	Clear
<b>Juvenile Encephalopathy (Discovered in the Parson Russell Terrier)</b>	Confidential	-	0	AR	Clear
<b>Juvenile Laryngeal Paralysis and Polyneuropathy</b>	RAB3GAP1	Deletion	0	AR	Clear
<b>Juvenile Myoclonic Epilepsy</b>	DIRAS1	Deletion	0	AR	Clear
<b>L-2-Hydroxyglutaric aciduria (Discovered in the Staffordshire Bull Terrier)</b>	L2HGDH	T>C	0	AR	Clear
<b>L-2-Hydroxyglutaric Aciduria (Discovered in the West Highland White Terrier)</b>	Confidential	-	0	AR	Clear
<b>Lafora Disease (Linkage test)</b>	NHLRC1	Insertion	0	AR	Clear
<b>Lagotto Storage Disease</b>	ATG4D	G>A	0	AR	Clear
<b>Lamellar Ichthyosis</b>	TGM1	Insertion	0	AR	Clear
<b>Laryngeal Paralysis (Discovered in the Bull Terrier and Miniature Bull Terrier)</b>	RAPGEF6	Insertion	0	AR	Clear
<b>Leigh-like Subacute Necrotizing Encephalopathy (Discovered in the Yorkshire Terrier)</b>	SLC19A3	Insertion	0	AR	Clear
<b>Lethal Acrodermatitis (Discovered in the Bull Terrier)</b>	MKLN1	A>C	0	AR	Clear
<b>Leukodystrophy (Discovered in the Standard Schnauzer)</b>	TSEN54	C>T	0	AR	Clear
<b>Ligneous Membranitis</b>	PLG	T>A	0	AR	Clear
<b>Limb-girdle Muscular Dystrophy (Discovered in the Boston Terrier)</b>	SGCD	Deletion	0	AR	Clear

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## Other health conditions tested

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<b>Limb-girdle Muscular Dystrophy, Type L3 (Discovered in the Miniature Dachshund)</b>	SGCA	G>A	0	AR	Clear
<b>Lung Developmental Disease (Discovered in the Airedale Terrier)</b>	LAMP3	C>T	0	AR	Clear
<b>Macrothrombocytopenia (Discovered in Norfolk and Cairn Terrier)</b>	TUBB1	G>A	0	AR	Clear
<b>May-Hegglin Anomaly</b>	MYH9	G>A	0	AD	Clear
<b>MDR1 Medication Sensitivity</b>	MDR1/ABCB1	Deletion	0	AD	Clear
<b>Microphthalmia (Discovered in the Soft-Coated Wheaten Terrier)</b>	RBP4	Deletion	0	AR	Clear
<b>Mucopolysaccharidosis Type IIIA (Discovered in the Dachshund)</b>	SGSH	C>A	0	AR	Clear
<b>Mucopolysaccharidosis Type IIIA (Discovered in the New Zealand Huntaway)</b>	SGSH	Insertion	0	AR	Clear
<b>Mucopolysaccharidosis Type VII (Discovered in the Brazilian Terrier)</b>	GUSB	C>T	0	AR	Clear
<b>Mucopolysaccharidosis Type VII (Discovered in the German Shepherd Dog)</b>	GUSB	G>A	0	AR	Clear
<b>Mucopolysaccharidosis VI (Discovered in the Miniature Pinscher)</b>	ARSB	G>A	0	AR	Clear
<b>Muscular Dystrophy (Discovered in the Cavalier King Charles Spaniel)</b>	Dystrophin	G>T	0	XR	Clear
<b>Muscular Dystrophy (Discovered in the Golden Retriever)</b>	Dystrophin	A>G	0	XR	Clear
<b>Muscular Dystrophy (Discovered in the Landseer)</b>	COL6A1	G>T	0	AR	Clear
<b>Muscular Dystrophy (Discovered in the Norfolk Terrier)</b>	Dystrophin	Deletion	0	XR	Clear
<b>Muscular Dystrophy-Dystroglycanopathy (Discovered in the Labrador Retriever)</b>	LARGE	C>T	0	AR	Clear
<b>Musladin-Lueke Syndrome</b>	ADAMTSL2	C>T	0	AR	Clear
<b>Myeloperoxidase Deficiency</b>	MOP	C>T	0	AR	Clear

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## Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
<b>Myotonia Congenita (Discovered in Australian Cattle Dog)</b>	CLCN1	Insertion	0	AR	Clear
<b>Myotonia Congenita (Discovered in the Labrador Retriever)</b>	CLCN1	T>A	0	AR	Clear
<b>Myotonia Congenita (Discovered in the Miniature Schnauzer)</b>	CLCN1	C>T	0	AR	Clear
<b>Myotubular Myopathy</b>	MTM1	A>C	0	XR	Clear
<b>Narcolepsy (Discovered in the Dachshund)</b>	HCRTR2	G>A	0	AR	Clear
<b>Narcolepsy (Discovered in the Labrador Retriever)</b>	HCRTR2	G>A	0	AR	Clear
<b>Nemaline Myopathy</b>	NEB	C>A	0	AR	Clear
<b>Neonatal Cerebellar Cortical Degeneration</b>	SPTBN2	Deletion	0	AR	Clear
<b>Neonatal Encephalopathy with Seizures</b>	ATF2	T>G	0	AR	Clear
<b>Neuroaxonal Dystrophy (Discovered in Spanish Water Dog)</b>	TECPR2	C>T	0	AR	Clear
<b>Neuroaxonal Dystrophy (Discovered in the Papillon)</b>	PLA2G6	G>A	0	AR	Clear
<b>Neuroaxonal Dystrophy (Discovered in the Rottweiler)</b>	VPS11	A>G	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 1</b>	PPT1	Insertion	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 12 (Discovered in the Australian Cattle Dog)</b>	ATP13A2	C>T	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 5 (Discovered in the Border Collie)</b>	CLN5	C>T	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 5 (Discovered in the Golden Retriever)</b>	CLN5	Deletion	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 7</b>	MFSD8	Deletion	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Alpine Dachsbracke)</b>	CLN8	Deletion	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Australian Shepherd)</b>	CLN8	G>A	0	AR	Clear

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## Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
<b>Neuronal Ceroid Lipofuscinosis 8 (Discovered in the English Setter)</b>	CLN8	T>C	0	AR	Clear
<b>Neuronal Ceroid Lipofuscinosis 8 (Discovered in the Saluki)</b>	CLN8	Insertion	0	AR	Clear
<b>Obesity risk (POMC)</b>	POMC	Deletion	0	AD	Clear
<b>Osteochondrodysplasia</b>	SLC13A1	Deletion	0	AR	Clear
<b>Osteochondromatosis (Discovered in the American Staffordshire Terrier)</b>	EXT2	C>A	0	AR	Clear
<b>Osteogenesis Imperfecta (Discovered in the Beagle)</b>	COL1A2	C>T	0	AD	Clear
<b>Osteogenesis Imperfecta (Discovered in the Dachshund)</b>	SERPINH1	T>C	0	AR	Clear
<b>P2RY12-associated Bleeding Disorder</b>	P2RY12	Deletion	0	AR	Clear
<b>Palmoplantar Hyperkeratosis (Discovered in the Rottweiler)</b>	DSG1	Deletion	0	AR	Clear
<b>Paroxysmal Dyskinesia</b>	PIGN	C>T	0	AR	Clear
<b>Persistent Müllerian Duct Syndrome</b>	AMHR2	C>T	0	AR	Clear
<b>Pituitary Dwarfism (Discovered in the Karelian Bear Dog)</b>	POU1F1	C>A	0	AR	Clear
<b>Polycystic Kidney Disease</b>	PKD1	G>A	0	AD	Clear
<b>Prekallikrein Deficiency</b>	KLKB1	T>A	0	AR	Clear
<b>Primary Ciliary Dyskinesia</b>	CCDC39	C>T	0	AR	Clear
<b>Primary Ciliary Dyskinesia (Discovered in the Alaskan Malamute)</b>	NME5	Deletion	0	AR	Clear
<b>Primary Lens Luxation</b>	ADAMTS17	G>A	0	AR	Clear
<b>Primary Open Angle Glaucoma (Discovered in Basset Fauve de Bretagne)</b>	ADAMTS17	G>A	0	AR	Clear
<b>Primary Open Angle Glaucoma (Discovered in Petit Basset Griffon Vendéen)</b>	ADAMTS17	Insertion	0	AR	Clear

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## Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
<b>Primary Open Angle Glaucoma and Lens Luxation (Discovered in Chinese Shar-Pei)</b>	ADAMTS17	Deletion	0	AR	Clear
<b>Progressive Early-Onset Cerebellar Ataxia</b>	SEL1L	T>C	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Basenji)</b>	SAG	T>C	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Golden Retriever - GR-PRA 2 variant)</b>	TTC8	Deletion	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Golden Retriever - GR-PRA1 variant)</b>	SLC4A3	Insertion	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Lapponian Herder)</b>	IFT122	C>T	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Lhasa Apso)</b>	IMPG2	Insertion	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Miniature Long Haired Dachshund)</b>	RPGRIP1	Insertion	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Papillon and Phalène)</b>	CNGB1	Deletion	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog - BBS2 variant)</b>	Confidential	-	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Shetland Sheepdog - CNGA1 variant)</b>	CNGA1	Deletion	0	AR	Clear
<b>Progressive Retinal Atrophy (Discovered in the Swedish Vallhund)</b>	MERTK	Insertion	0	AR	Clear
<b>Progressive Retinal Atrophy 1 (Discovered in the Italian Greyhound)</b>	Confidential	-	0	AR	Clear
<b>Progressive Retinal Atrophy Type III</b>	FAM161A	Insertion	0	AR	Clear
<b>Progressive Rod Cone Degeneration (prcd-PRA)</b>	PRCD	G>A	0	AR	Clear
<b>Protein Losing Nephropathy</b>	NPHS1	G>A	0	AR	Clear
<b>Pyruvate Dehydrogenase Phosphatase 1 Deficiency</b>	PDP1	C>T	0	AR	Clear
<b>Pyruvate Kinase Deficiency (Discovered in the Basenji)</b>	PKLR	Deletion	0	AR	Clear

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## Other health conditions tested

Genetic Condition	Gene	Risk Variant	Copies	Inheritance	Result
<b>Pyruvate Kinase Deficiency (Discovered in the Beagle)</b>	PKLR	G>A	0	AR	Clear
<b>Pyruvate Kinase Deficiency (Discovered in the Pug)</b>	PKLR	T>C	0	AR	Clear
<b>Pyruvate Kinase Deficiency (Discovered in the West Highland White Terrier)</b>	PKLR	Insertion	0	AR	Clear
<b>QT Syndrome</b>	KCNQ1	C>A	0	AD	Clear
<b>Renal Cystadenocarcinoma and Nodular Dermatofibrosis</b>	FLCN	A>G	0	AD	Clear
<b>Rod-Cone Dysplasia 1</b>	PDE6B	G>A	0	AR	Clear
<b>Rod-Cone Dysplasia 1a</b>	PDE6B	Insertion	0	AR	Clear
<b>Rod-Cone Dysplasia 3</b>	PDE6A	Deletion	0	AR	Clear
<b>Sensorineural Deafness (Discovered in the Rottweiler)</b>	LOXHD1	G>C	0	AR	Clear
<b>Sensory Ataxic Neuropathy</b>	tRNATyr	Deletion	0	MT	Clear
<b>Sensory Neuropathy</b>	FAM134B	Insertion	0	AR	Clear
<b>Severe Combined Immunodeficiency (Discovered in Frisian Water Dogs)</b>	RAG1	G>T	0	AR	Clear
<b>Severe Combined Immunodeficiency (Discovered in Russell Terriers)</b>	PRKDC	G>T	0	AR	Clear
<b>Shaking Puppy Syndrome (Discovered in the Border Terrier)</b>	Confidential	-	0	AR	Clear
<b>Skeletal Dysplasia 2</b>	COL11A2	G>C	0	AR	Clear
<b>Spinocerebellar Ataxia (Late-Onset Ataxia)</b>	CAPN1	G>A	0	AR	Clear
<b>Spinocerebellar Ataxia with Myokymia and/or Seizures</b>	KCNJ10	C>G	0	AR	Clear
<b>Spondylocostal Dysostosis</b>	HES7	Deletion	0	AR	Clear
<b>Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois - SDCA1)</b>	KCNJ10	T>C	0	AR	Clear
<b>Spongy Degeneration with Cerebellar Ataxia (Discovered in Belgian Malinois - SDCA2)</b>	ATP1B2	Insertion	0	AR	Clear

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<b>Stargardt Disease (Discovered in the Labrador Retriever)</b>	ABCA4	Insertion	0	AR	Clear
<b>Startle Disease (Discovered in Irish Wolfhounds)</b>	SLC6A5	G>T	0	AR	Clear
<b>Startle Disease (Discovered in the Miniature American Shepherd)</b>	Confidential	-	0	AR	Clear
<b>Succinic Semialdehyde Dehydrogenase Deficiency (Discovered in the Saluki)</b>	ALDH5A1	G>A	0	AR	Clear
<b>Thrombopathia (Discovered in the Basset Hound)</b>	RASGRP1	Deletion	0	AR	Clear
<b>Thrombopathia (Discovered in the Eskimo Spitz)</b>	RASGRP1	Insertion	0	AR	Clear
<b>Trapped Neutrophil Syndrome</b>	VPS13B	Deletion	0	AR	Clear
<b>Van den Ende-Gupta Syndrome</b>	SCARF2	Deletion	0	AR	Clear
<b>von Willebrand's Disease, type 1</b>	VWF	G>A	0	AD	Clear
<b>von Willebrand's Disease, type 2</b>	VWF	T>G	0	AR	Clear
<b>von Willebrand's Disease, type 3 (Discovered in the Kooiker Hound)</b>	VWF	G>A	0	AR	Clear
<b>von Willebrand's Disease, type 3 (Discovered in the Scottish Terrier)</b>	VWF	Deletion	0	AR	Clear
<b>von Willebrand's Disease, type 3 (Discovered in the Shetland Sheepdog)</b>	VWF	Deletion	0	AR	Clear
<b>X-Linked Ectodermal Dysplasia</b>	EDA	G>A	0	XR	Clear
<b>X-Linked Hereditary Nephropathy (Discovered in the Navasota Dog)</b>	COL4A5	Deletion	0	XR	Clear
<b>X-Linked Hereditary Nephropathy (Discovered in the Samoyed)</b>	COL4A5	G>T	0	XR	Clear
<b>X-Linked Myotubular Myopathy</b>	MTM1	C>A	0	XR	Clear
<b>X-Linked Progressive Retinal Atrophy 1</b>	RPGR	Deletion	0	XR	Clear
<b>X-Linked Progressive Retinal Atrophy 2</b>	RPGR	Deletion	0	XR	Clear

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<b>X-Linked Severe Combined Immunodeficiency (Discovered in the Basset Hound)</b>	IL2RG	Deletion	0	XR	Clear
<b>X-Linked Severe Combined Immunodeficiency (Discovered in the Cardigan Welsh Corgi)</b>	IL2RG	Insertion	0	XR	Clear
<b>X-Linked Tremors</b>	PLP1	A>C	0	XR	Clear
<b>Xanthinuria (Discovered in a mixed breed dog)</b>	Confidential	-	0	AR	Clear
<b>Xanthinuria (Discovered in the Cavalier King Charles Spaniel)</b>	Confidential	-	0	AR	Clear
<b>Xanthinuria (Discovered in the Toy Manchester Terrier)</b>	Confidential	-	0	AR	Clear

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## Glossary of genetic terms

### Test result definitions

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**At Risk:** Based on the disorder's mode of inheritance, the dog inherited a number of genetic variant(s) which increases the dog's risk of being diagnosed with the associated disorder.

**Carrier:** The dog inherited one copy of a genetic variant when two copies are usually necessary to increase the dog's risk of being diagnosed with the associated disorder. While carriers are usually not at risk of clinical expression of the disorder, carriers of some complex variants may be associated with a low risk of developing the disorder.

**Clear:** The dog did not inherit the genetic variant(s) associated with the disorder and will not be at elevated risk of being diagnosed with the disorder due to this genotype. However, similar clinical signs could develop from different genetic or clinical causes.

**Inconclusive:** An inconclusive result indicates a confident call could not be made based on the data for that genetic variant. Health testing is performed in replicates, and on occasion the outcomes do not agree. This may occur due to an unusual sequence of DNA in the region tested, multiple cell genotypes present due to chimerism or acquired mutations, or due to quality of the DNA sample.

### Inheritance mode definitions

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**Autosomal Recessive (AR):** For autosomal recessive disorders, dogs with two copies of the genetic variant are at risk of developing the associated disorder. Dogs with one copy of the variant are considered carriers and are usually not at risk of developing the disorder. However, carriers of some complex variants grouped in this category may be associated with a low risk of developing the disorder. Dogs with one or two copies may pass the disorder-associated variant to their puppies if bred.

**Autosomal Dominant (AD):** For autosomal dominant disorders, dogs with one or two copies of the genetic variant are at risk of developing the associated disorder. Inheriting two copies of the variant may increase the risk of development of the disorder or cause the condition to be more severe. These dogs may pass the disorder-associated variant to their puppies if bred.

**X-linked Recessive (XR):** For X-linked recessive disorders, the genetic variant is found on the X chromosome. Female dogs must inherit two copies of the variant to be at risk of developing the condition, whereas male dogs only need one copy to be at risk. Males and females with any copies of the variant may pass the disorder-associated variant to their puppies if bred.

**X-linked Dominant (XD):** For X-linked dominant disorders, the genetic variant is found on the X chromosome. Both male and female dogs with one copy of the variant are at risk of developing the disorder. Females inheriting two copies of the variant may be at higher risk or show a more severe form of the disorder than with one copy. Males and females with any copies of the variant may pass the disorder-associated variant to their puppies if bred.

**Mitochondrial (MT):** Unlike the two copies of genomic DNA held in the nucleus, there are thousands of mitochondria in each cell of the body, and each holds its own mitochondrial DNA (mtDNA). Mitochondria are called the "powerhouses" of the cell. For a dog to be at risk for a mitochondrial disorder, it must inherit a certain ratio of mtDNA with the associated variant compared to normal mtDNA. mtDNA is inherited only from the mother.