WOOFDNA™

Decode. Discover. Care.

Essential

Personalised Canine Genetic Report

Welcome to Lyla's Personalised Canine Genetic Report

Dear Malvika,

Thank you for choosing WOOFDNA to be a part of your journey. We understand the profound bond between you and your pet.

Their unconditional love and trust in us is truly priceless. That's why we created WOOFDNA - to help you give your furry companion the best life possible, powered by cutting-edge science and genuine care.

This report is more than just data—it's a celebration of your dog's one-of-a-kind genetic story. Each marker, trait, and insight has been thoughtfully decoded to guide you toward more informed and compassionate decisions.

We're honoured to stand by you and your pet as partners in health, understanding, and tail-wagging joy.

With Gratitude and Pawsitivity,
Team WOOFDNA™

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ABOUT WOOFDNA™

PAWS, PRINTS, AND DNA – UNLOCK YOUR DOG'S GENETIC STORY !

WOOFDNA is a pioneering genetic testing service designed to help you understand your dog on a deeper level. With just a quick swab, we scan thousands of genetic markers and compare them with trusted breed and health databases.

Your dog's report is more than science — it's a guide to their well-being, personality, physical traits, and so much more.

Our science-backed reports are built for caring pet parents and supported by veterinary insights, making every detail easy to understand and act upon. Because the better we understand our dogs, the better we can love and care for them — **every day, in every way**.

Let's uncover their story, one gene at a time!

LYLA'S DETAILS

Dog Name	**Lyla**
Gender	Female
Date of Birth	
Pet Parent Name	Malvika Tyagi
Sample ID	A006A
Sample Type	BUCCAL SWAB
Test Date	09-01-2025
Report Date	01-03-2025

SUMMARY OF LYLA'S REPORT

While a detailed report is available in the subsequent pages, here is a summary of Lyla's findings -

HEALTH STATUS		
Single Gene		
	Neuronal ceroid lipofuscinosis, 1	**Carrier**
	Prekallikrein deficiency	**Carrier**
Multiple Gene		
	Pain, abnormal nail growth, bleeding or splitting of nails, or nail sloughing	**Low Risk**
	Osteoarthritis (OA)	**Low Risk**
	Leukocytosis	**Low Risk**
	Hereditary Sensory Autonomic Neuropathies(HSAN)	**Low Risk**
	Anterior cruciate ligament (ACL) rupture	**Low Risk**
	Thrombocytosis	**Low Risk**
FATAL DISEASES STATUS		
	Canine Idiopathic Pulmonary Fibrosis	**High Risk**
	Degenerative mitral valve disease	**High Risk**
	Ectopic ureters	**Medium Risk**
	Spinocerebellar ataxia*	**Medium Risk**
	T zone lymphoma (TZL)	**Low Risk**
	Mitral valve prolapse	**Low Risk**
	Interstitial Lung Diseases (ILDs)	**Low Risk**

While genetic markers may indicate susceptibility, clinical risk depends heavily on breed prevalence. Conditions like Idiopathic Pulmonary Fibrosis are common in Boxers and West Highland Terriers but rarely seen in small breeds like the Bolognese. This result should be viewed as a precautionary note rather than a high-probability outcome.

Note: Please consult your veterinarian for a complete understanding.

SUMMARY OF LYLA'S REPORT

While a detailed report is available in the subsequent pages, here is a summary of Lyla's findings -

PHYSICAL ATTRIBUTES		
	Coat Colour	**Positive for white / cream colour, Red/yellow colour and reduced expression of eumelanin**
	Height	**No associated variants found, likely to maintain the standard breed height**
	Weight	**No associated variants found, likely to maintain the standard breed weight**
BEHAVIORAL ATTRIBUTES		
	Licks tile floors	**High**
	Aggressive to cats	**Moderate**
	Marks with feces	**Moderate**
	Avoids getting wet	**Low**
	Aggressive to unfamiliar people	**Low**
	Dominant over dogs	**Low**
	Fearfulness	**Low**
	Friendly to dogs	**Low**
	Friendly to unfamiliar people	**Low**
	Playful with dogs	**Low**
	Slow to respond to corrections	**Low**
	Heart rate during clinical examination	**Low**

LYLA'S DETAILED REPORT

Your dog is one of a kind — and so is their DNA.

This detailed report reveals what's hidden beneath the surface: health predispositions, unique traits, and breed-informed grooming and exercise tips — helping you understand your dog like never before.

Use this knowledge to give your dog a longer, healthier, and more joyful life.

We recommend sharing these results with your veterinarian to create a proactive care plan.

GENETIC HEALTH OVERVIEW

1. Single Gene

Some diseases are caused by mutations in a single gene*, making them easier to detect. If a dog inherits a disease-causing mutation in both copies of the gene, they are considered at **risk** for developing the condition; otherwise, they are either **carriers** or **clear** of the disease.

DISEASE	GENE	GENOTYPE	INHERITANCE	RISK INTERPRETATION
Neuronal ceroid lipofuscinosis, 1	PPT1	G/A	Autosomal Recessive	Carrier

Neuronal ceroid lipofuscinosis, 1

Lyla is a carrier for Neuronal ceroid lipofuscinosis, 1 (NCL1), associated with the PPT1 gene. This is an autosomal recessive neurodegenerative disorder characterized by the progressive accumulation of lipopigments in the brain and nervous system. Affected dogs typically show symptoms such as behavioral changes, motor decline, vision loss, and seizures.

As a carrier, the dog is not expected to exhibit clinical signs but can pass the mutation to its offspring. Responsible breeding should avoid pairing two carriers to prevent producing affected puppies.

DISEASE	GENE	GENOTYPE	INHERITANCE	RISK INTERPRETATION
Prekallikrein deficiency	KLKB1	A/T	Autosomal Recessive	Carrier

Prekallikrein deficiency

Lyla is a carrier for Prekallikrein deficiency, associated with the KLKB1 gene. This autosomal recessive blood disorder affects the intrinsic coagulation pathway, often resulting in prolonged aPTT but is typically asymptomatic.

As a carrier, the dog is not expected to exhibit clinical signs but can pass the mutation to its offspring. Responsible breeding should avoid pairing two carriers to prevent producing affected puppies.

Glossary:
*A gene is a segment of DNA that contains instructions for building proteins, which determine an organism's traits and functions.
**Autosomal recessive refers to a genetic condition that occurs only when an individual inherits two copies of a mutated gene—one from each parent.
A carrier is someone who harbors a genetic variant associated with a disease but typically does not show symptoms.

2. Multiple Gene

Some diseases are influenced by multiple genes as well as environmental factors, making risk assessment more complex.

While no single mutation directly causes the disease, specific genetic markers may indicate an increased likelihood of developing it.

DISEASE	RISK %	RISK INTERPRETATION
Canine Idiopathic Pulmonary Fibrosis	100%	High Risk
Degenerative mitral valve disease	100%	High Risk
Ectopic ureters	50%	Medium Risk
Spinocerebellar ataxia	33.33%	Medium Risk
Pain, abnormal nail growth, bleeding or splitting of nails, or nail sloughing	28.57%	Low Risk
T zone lymphoma (TZL)	23.33%	Low Risk
osteoarthritis (OA)	22.22%	Low Risk
Leukocytosis	20%	Low Risk
Hereditary Sensory Autonomic Neuropathies(HSAN)	20%	Low Risk
Anterior cruciate ligament (ACL) rupture	19.71%	Low Risk
Mitral valve prolapse	16.67%	Low Risk
Interstitial Lung Diseases (ILDs)	15.38%	Low Risk
Thrombocytosis	8.33%	Low Risk

Canine Idiopathic Pulmonary Fibrosis – Your dog has a high genetic risk for a lung condition that can make breathing harder over time.
Regular check-ups and early monitoring are helpful.

Degenerative Mitral Valve Disease – A common heart condition in older dogs.
Your dog has a high risk, so routine heart exams as they age are recommended.

Ectopic Ureters – Your dog has a medium chance of being born with a condition that can affect how urine flows, sometimes causing accidents. It's something to watch for when they're young.

Spinocerebellar Ataxia - A moderate genetic risk was found for this neurological condition, which can affect balance and coordination. While most dogs with this risk remain unaffected, it's good to monitor for signs of unsteadiness.

While genetic markers may indicate susceptibility, clinical risk depends heavily on breed prevalence. Conditions like Idiopathic Pulmonary Fibrosis are common in Boxers and West Highland Terriers but rarely seen in small breeds like the Bolognese. This result should be viewed as a precautionary note rather than a high-probability outcome.

Note: Please consult your veterinarian for a complete understanding.

2. Multiple Gene (contd.)

T Zone Lymphoma (TZL) – A low genetic tendency was found for this slow-growing lymphoma, typically seen in older dogs.
Most affected dogs can live comfortably with proper veterinary support.

Thrombocytosis – Your dog has a low chance of having slightly higher platelet counts, which help with blood clotting. This is usually not a concern unless other signs appear.

Interstitial Lung Disease (ILD) – A low risk was found for these types of lung disorders, which can slowly affect breathing. Most dogs with this risk stay healthy, but any signs of labored breathing should be checked by a vet.

Anterior Cruciate Ligament (ACL) Rupture – A low genetic risk for injury to the knee ligament, which may cause limping or lameness. Maintaining a healthy weight and controlled exercise can help reduce the chance of joint stress.

Leukocytosis – Your dog has a low chance of having elevated white blood cell counts. This may occasionally be seen during illness or inflammation, but is usually not cause for concern.

HSAN (Hereditary Sensory Autonomic Neuropathy) – A rare nerve condition with a low risk. If your dog ever seems less sensitive to pain or touch, this could be something to mention to your vet.

Osteoarthritis (OA) – Your dog may have a medium risk for joint discomfort and stiffness as they age. Staying active, maintaining a healthy weight, and early support can help promote joint health and mobility.

Mitral Valve Prolapse – A low genetic risk for this condition, where a heart valve may not close properly. It's typically mild and doesn't cause symptoms in most dogs, but regular heart checkups help ensure early detection if needed.

These results reflect genetic risk only. Many conditions are influenced by a combination of genetics, environment, lifestyle, diet, and age. A genetic risk does not guarantee that a condition will develop. Regular veterinary care, a balanced diet, exercise, and early monitoring play important roles in keeping your dog healthy.

Fatal Diseases Status

This section highlights genetic conditions that are considered severe, life-threatening, or potentially fatal without timely intervention.

While not all dogs with these genes will develop the disease, awareness enables early action — from screenings and lifestyle changes to informed medical planning.

FATAL DISEASE NAME	STATUS	RISK
Canine Idiopathic Pulmonary Fibrosis	High Risk	100%
Degenerative mitral valve disease	High Risk	100%
Ectopic ureters	Medium Risk	50%
Spinocerebellar ataxia*	Low Risk	33.33%
T zone lymphoma (TZL)	Low Risk	23.33%
Mitral valve prolapse	Low Risk	16.67%
Interstitial Lung Diseases (ILDs)	Low Risk	15.38%
Canine Mammary Gland Tumours	No variants detected	0%
Canine Degenerative Myelopathy (DM)	No variants detected	0%
Canine Leukoencephalomyelopathy	No variants detected	0%
Canine Mammary Tumours (CMT)	No variants detected	0%
Canine Neuroaxonal Dystrophy (NAD) *	No variants detected	0%
Cone-Rod Dystrophies *	No variants detected	0%
Congenital Stationary Night Blindness (CSNB)	No variants detected	0%
Dilated cardiomyopathy (DCM) *	No variants detected	0%
Familial Thyroid Follicular Cell Carcinoma*	No variants detected	0%
Gastric dilatation-volvulus (GDV)*	No variants detected	0%
Golden Retriever muscular dystrophy (GRMD)	No variants detected	0%
Histiocytic sarcoma*	No variants detected	0%
Inborn errors of metabolism (SSADHD)*	No variants detected	0%
Laryngeal paralysis (LP)*	No variants detected	0%
Lethal acrodermatitis (LAD)	No variants detected	0%
Neurodegenerative disorder of copper deficiency	No variants detected	0%
Osteosarcoma (OSA)*	No variants detected	0%
Potassium-related disorder*	No variants detected	0%
Sudden Cardiac Death and Dilated Cardiomyopathy*	No variants detected	0%
Thoracolumbar Myelopathy*	No variants detected	0%
Upper Airway Syndrome*	No variants detected	0%
X-linked facial dysmorphia*	No variants detected	0%

Note: Conditions marked with an asterisk (*) are considered potentially fatal based on current scientific understanding, though individual outcomes may vary throughout the lifespan of the pet.

PHYSICAL ATTRIBUTES

1. Coat Colour

Coat color in dogs is determined by specific genetic variations that control pigment production and distribution. Personalised Canine genetic testing analyzes Single-Nucleotide Polymorphisms (SNPs) in key genes to predict coat color, patterns, and markings.

COAT COLOUR	GENE	ALLELE	RESULT INTERPRETATION
White or cream	MFSD12	-	Associated with white or cream coat colors; dilutes red/yellow pigment intensity
Red/yellow coat	MC1R	e^1	Associated with red/yellow; reduces eumelanin (black/brown) pigment synthesis.
Reduced expression of eumelanin	MC1R	e^A	Associated with lighter coat colors (red/yellow); reduces black/brown pigment production.

What does it mean?

White or cream

Lyla carries the p.(R51C) variant in the MFSD12 gene, which markedly reduces phaeomelanin (red/yellow pigment) intensity. When paired with e/e at the MC1R locus (which removes eumelanin), this results in solid white or cream coat coloration. The MFSD12 variant is a naturally occurring autosomal recessive trait with no known health consequences.

Red/yellow coat

Lyla carries the e^1 allele in the MC1R gene, a recessive loss-of-function variant that limits eumelanin (black/brown pigment) production. This results in red or yellow coat colors often seen in breeds like the Irish Setter and Labrador Retriever. The alteration is a stop-gain mutation (p.Arg306Ter) and represents a common, naturally occurring pigment variation with no known impact on health.

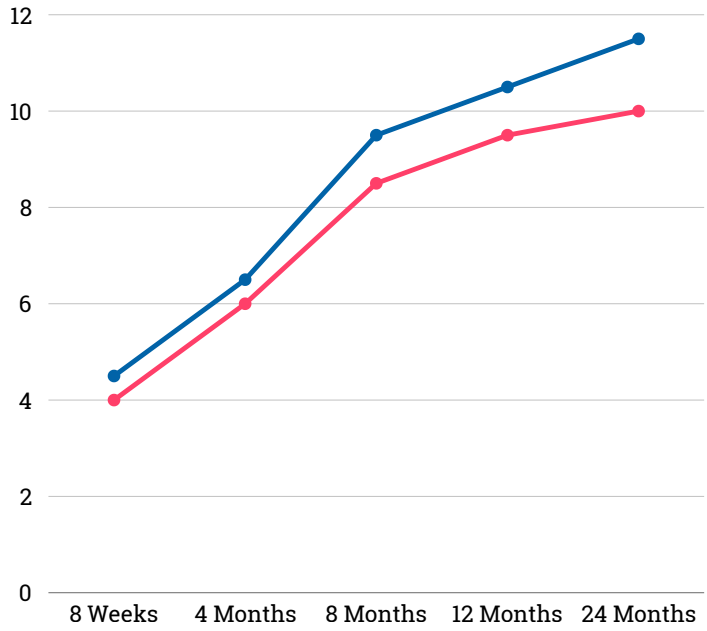
Reduced expression of eumelanin

Lyla carries the e^a allele in the MC1R gene, which reduces eumelanin (black/brown pigment) production. This typically results in lighter coat colors such as red, yellow, or cream shades. It is a normal pigment variation with no known health impact.

2. Height

A dog's height is primarily influenced by genetic variations in specific genes related to growth and skeletal development. Personalised Canine Genetic testing analyzes Single-Nucleotide Polymorphisms (SNPs) associated with height to estimate a dog's potential adult size.

General Trends for Height:



Age Group	Female (inch)	Male (inch)
8 Weeks	4.0	4.5
4 Months	6.0	6.5
8 Months	8.5	9.5
12 Months	9.5	10.5
24 Months	10.0	11.5

Average Height:

10–12 inches (Male), 9.5–11inches (Female)

The average height of a healthy adult Bolognese dog is typically 10–12 inches (Male) and 9.5–11 inches (Female).

Your Results -

HEIGHT	VARIANT	RESULT INTERPRETATION
Size (Tiny Breeds)	No variants found	Not genetically predisposed to unusually small size
Size (Giant Breeds)	No variants found	Not genetically predisposed to extremely large size

Conclusion - Lyla does not carry any of the genetic variants associated with unusually small, extremely large, or giant breed sizes. This suggests they are genetically expected to remain within the normal size range typical for their breed. However, it's important to remember that adult size is also shaped by factors such as diet, physical activity, and environment during growth and development

Things to Consider for a healthy adult dog:

The height of a Bolognese dog, like any breed, is influenced by both genetics and environmental factors. While genetics sets the potential, environmental influences can affect whether a Bolognese reaches that full potential.
Here's a breakdown of key environmental factors that can impact the growth and height of a Bolognese:

1. Nutrition:

- Provide a balanced diet rich in high-quality protein, moderate fat, and essential micronutrients.
- Portion control is critical to prevent excess weight, which may impact posture, gait, and joint health.

2. Exercise

- Implement gentle, breed-appropriate activities to enhance muscle tone and bone strength.
- Daily walks, light play, proper hydration, and scheduled veterinary assessments contribute to structural well-being.

3. Stress and Environment

- Maintain a clean, low-stress living space with adequate room for movement and enrichment.
- Calm routines and mental engagement promote healthy posture, muscle coordination, and resilience during development.

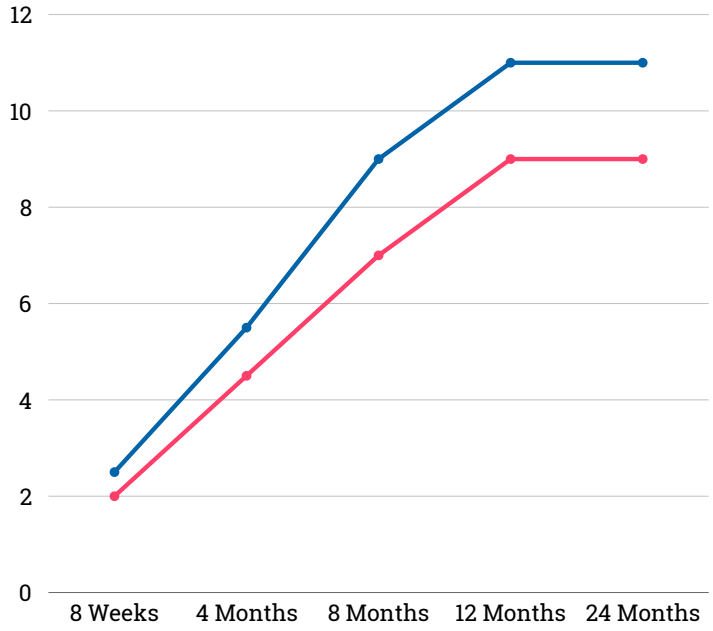
4. Health and Disease

- Regular screenings for breed-relevant conditions such as patellar luxation, dental disease, and obesity help preserve physical integrity and functional mobility in adulthood.

3. Weight

In Personalised Canine Genetic testing, weight as a physical attribute refers to a genetically predicted adult body weight range based on specific DNA markers that influence size and growth.

General Trends for Weight:



Age Group	Female (kg)	Male (kg)
8 Weeks	2.0	2.5
4 Months	4.5	5.5
8 Months	7.0	9.0
12 Months	9.0	11.0
24 Months	9.0	11.0

Average Weight:

2.7–4.5 kg (Male)
2.5–4.0 kg (Female)

The average healthy weight of an adult Bolognese dog is typically 2.7–4.5 kg for males and 2.5–4.0 kg for females.

Your Results:

WEIGHT	GENE	RESULT INTERPRETATION
Bulky	No variants found	No variants found
Small	No variants found	No variants found

Conclusion - Lyla does not carry any of the genetic variants associated with unusually bulky or small. This suggests they are genetically expected to remain within the normal weight range typical for their breed. However, it's important to remember that adult weight is also shaped by factors such as diet, physical activity, and environment during growth and development.

Things to Consider for the healthy adult dog:

The weight of a Bolognese, like their height, is influenced by both genetics and environmental factors.

While genes determine their potential adult weight, the environment plays a major role in whether they maintain a healthy weight or drift into underweight/overweight territory.

1. Nutrition:

- Avoid overfeeding, particularly calorie-dense foods and frequent treats.
- Refrain from offering table scraps or high-fat human foods.
- Adhere to portion guidelines to prevent obesity.

2. Exercise

- Bolognese dogs have moderate energy and enjoy daily walks and interactive play.
- Off-leash activity should only occur in secure, fenced areas—curiosity and small size make them vulnerable outdoors.
- Avoid excessive jumping to protect joints.

3. Stress and Environment

- Sensitive to change and prolonged isolation—routine-based care improves emotional stability.
- Establish consistent feeding, rest, and exercise schedules.
- Provide a quiet, calming zone for downtime, especially in noisy households.

4. Health and Disease

- Common issues include dental disease, patellar luxation, tear staining, and early-onset cataracts.
- Regular ear cleaning prevents infection; monitor for redness or odor.
- Screen routinely for signs of weight gain, lethargy, and eye or joint abnormalities.

BEHAVIOURAL ATTRIBUTES

BEHAVIOUR TRAIT	GENETIC LIKELIHOOD (%)	TENDENCY LEVEL
Licks tile floors	100	High
Aggressive to cats	50	Moderate
Marks with feces	50	Moderate
Avoids getting wet	0	Low
Aggressive to unfamiliar people	0	Low
Dominant over dogs	0	Low
Fearfulness	0	Low
Friendly to dogs	0	Low
Friendly to unfamiliar people	0	Low
Playful with dogs	0	Low
Slow to respond to corrections	0	Low
Heart rate during clinical examination	0	Low

Licks Tile Floors – Your dog shows a high tendency to lick tile floors or similar surfaces. This behavior is usually harmless, but if it becomes excessive, consider checking with a vet.

Aggressive to Cats – Your dog has a moderate genetic tendency to show aggression or strong reactions toward cats.
Early socialization and positive introductions can help reduce any such behavior.

Marks with Feces – There is a moderate likelihood that your dog may display marking behavior using feces.
Routine training and structured environments can help discourage this.

BEHAVIOURAL ATTRIBUTES

Avoids Getting Wet – Your dog has a low tendency to dislike water or avoid getting wet during baths or rain. Most likely, they will be comfortable in such situations.

Aggressive to Unfamiliar People – A low genetic tendency for aggression toward strangers. This suggests your dog is unlikely to be reactive, though behaviour also depends on training and social exposure.

Dominant Over Dogs – Your dog has a low genetic likelihood of showing dominant behaviour toward other dogs, which can help with smoother social interactions.

Fearfulness – No significant genetic markers were found for fearfulness, indicating a low likelihood of timid or overly cautious behaviour.

Friendly to Dogs – Your dog has a low genetic tendency for being friendly toward other dogs. This doesn't mean they won't be social — training and experience still matter greatly.

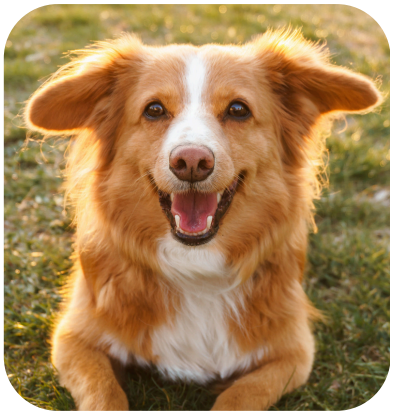
Friendly to Unfamiliar People – A low likelihood of shyness or aggression toward strangers, suggesting your dog may be open or neutral toward new people.

Playful with Dogs – No strong genetic indicator for playfulness, but many dogs become more playful through positive dog-dog interactions.

Slow to Respond to Corrections – Your dog has a low genetic tendency for stubbornness or delayed response to training corrections. Consistent, positive training will work well.

Heart Rate During Clinical Examination – No genetic tendency was found for elevated or abnormal heart rate during vet visits. Stress levels may still vary based on environment and handling.

These behavioral insights are based on genetic markers and reflect only a potential tendency. Actual behavior is shaped by many factors including training, early life experiences, environment, and socialization. Even with a genetic predisposition, positive reinforcement, routine, and consistent guidance can help shape well-adjusted and happy dogs.



DISCLAIMER

While we aim to provide you with the most detailed insights available, our ability to report on potential health risks is guided by current scientific understanding — which continues to evolve.

Be sure to check back from time to time, as new discoveries may offer more clarity or updates on your dog's genetic profile.

Also, genetics is just one part of the picture. A healthy lifestyle—filled with the right nutrition, exercise, and love—is just as important in helping your dog live their happiest life.

Thank you for being a thought leader pet parent and getting the Personalised WOOFDNA™ Canine Genetic Test done for Lyla.

For any additional queries feel free to reach out using the contact details given below — and don't forget to share this with fellow pet parents who want the very best for their furry companions!

We wish you a very joyous and fun-filled companionship! 🐾

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