



Genetic Profile Test Results

Horse: Helios Morinda

Owner: Herica Ravel

Horse and Owner Information

Horse	Helios Morinda	DOB	2017-04-26
Breed	Selle Francais	Age	0 years, 0 months
Color	Tobiano	Sex	Stallion
Discipline	Jumper	Height
Registry	Reg Number
Sire	Ulyss Morinda	Dam	Audace Kalone
Sire Reg & No.	Dam Reg & No.
Comments	Description: New born out of Ulyss Morinda and Audace Kalone		

Owner	Herica Ravel	Address	Rue de Pernelle 6/7
Phone	33629114340	City, State	Couvin, Namur
Email	contact@morinda.fr	Postal Code	5660



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Results Summary

Coat Color: Helios Morinda has no Red alleles and two Black, indicating his base coat color appears Black. One copy of the Dominant Agouti allele was detected; invisible on a Red base, it pushes/restricts Black out to points; legs, ear tips, etc. appearing Bay. Two Tobiano alleles were also detected which may result in White markings. As a result of the allele count in each of the following, he has a minimum 100% chance of passing Black and Tobiano, and 50% Dominant Agouti to any offspring.

Allele Summary: Aa, EE, nd1/nd2, TO/TO, TT (Endurance Type)

Traits: Helios Morinda has not tested positive for any recessive disease alleles on this panel. *His DNA was also tested on our discovery/validation platform for non-Dun Primitive Markings. Preliminary results indicate he is heterozygous for non-Dun Primitive Markings (nd1/nd2) and may pass it to 50% of any offspring.

Please note: Your analysis is ongoing and may include some regions marked with an asterisk denoting the following.
* Discovery - This gene detection is in the early stages of discovery and will have varying reliability results.
** Inconclusive - Not a bad omen! Simply put, the gene of interest did not reveal itself (neither a positive nor a negative; no result, therefore unknown).



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Coat Color Results

Base

Agouti	+/-	ASIP	Aa - One dominant Agouti allele detected; restricts any Black base to appear Bay.	More about A
Black/Red	+/+	MC1R	EE - Two Black alleles detected and no Red.	More about E

Modifier

Brindle/IP	-/-	IKBKG	No Brindle/IP alleles detected.	More about IP
Grey	-/-	STX17A	No Grey alleles detected.	More about G

Dilution

Champagne	-/-	SLC36A1	No Champagne alleles detected.	More about CH
Cream	-/-	SLC45A2	No Cream alleles detected.	More about CR
Dun	-/-, -/-, +/-, +/-	TBX3	nd1/nd2 (non-dun with possible primitive markings). One non-dun1 allele and one non-dun2 allele detected. No Dun alleles detected.	More about Dun
Pearl	-/-	SLC45A2	No Pearl alleles detected.	More about prl
Silver	-/-	PMEL17	No Silver alleles detected.	More about Z



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Coat Color Results, continued

White Patterns Results

Dominant White	-/-	<i>KIT</i>	No Dominant White alleles detected (DW1-21).	More about DW
Frame Overo (LWO)	-/-	<i>EDNRB</i>	No Frame Overo (LWO) alleles detected.	More about LWO
Leopard Complex Spotting (LP)	-/-	<i>TRPM1</i>	No Leopard Complex Spotting (LP) alleles detected.	More about LP
Pattern 1 (LP modification)	-/-	<i>RFWD3</i>	No Pattern 1 (LP modification) alleles detected.	More about PATN1
Splashed White (MITF)	-/-,-/-	<i>MITF</i>	No Splashed White 1 nor Splashed White 3 alleles detected.	More about SW (MITF)
Splashed White (PAX3)	-/-,-/-	<i>PAX3</i>	No Splashed White 2 nor Splashed White 4 alleles detected.	More about SW (PAX3)
Sabino 1	-/-	<i>KIT</i>	No Sabino 1 alleles detected.	More about SB1
Tobiano	+/+	<i>ECA3</i>	TO/TO - Two Tobiano alleles detected.	More about TO



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Health Genetics 1

Immune System

Foal Immunodeficiency Syndrome	-/-	SLC5A3	No Foal Immunodeficiency Syndrome alleles detected.	More about fis
Severe Combined Immunodeficiency	-/-	DNAPK	No Severe Combined Immunodeficiency alleles detected.	More about scid
West Nile*	-/-	OAS1	Normal susceptibility to West Nile Virus.	More about WNVR*

Muscle Disorders

Glycogen Branching Enzyme Deficiency	-/-	GBE1	No Glycogen Branching Enzyme Deficiency alleles detected.	More about gbed
Hyperkalemic Periodic Paralysis	-/-	SCN4A	No Hyperkalemic Periodic Paralysis alleles detected.	More about HYPP
Malignant Hyperthermia	-/-	RYR1	No Malignant Hyperthermia alleles detected.	More about MH
Myotonia	-/-	CLCN4	No Myotonia alleles detected.	More about myt
Polysaccharide Storage Myopathy (type 1)	-/-	GYS1	No Polysaccharide Storage Myopathy (type 1) alleles detected.	More about PSSM1



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Health Genetics 2

Neurologic Disorders

Cerebellar Abiotrophy	-/-	MUTYH	No Cerebellar Abiotrophy alleles detected.	More about ca
Lavender Foal Syndrome	-/-	MYO5A	No Lavender Foal Syndrome alleles detected.	More about lfs

Reproductive Disorders

Androgen Insensitivity	-/-	AR	No Androgen Insensitivity alleles detected.	More about as
IAR - Subfertility*	+/, +/-	FKBP6	Three IAR Subfertility* alleles detected; likely no effect.	More about iar*

Skin Disorders

Hereditary Equine Regional Dermal Asthenia	-/-	PPIB	No Hereditary Equine Regional Dermal Asthenia alleles detected.	More about herda
Junctional Epidermolysa Bullosis (type 1)	-/-	LAMC2	No Junctional Epidermolysa Bullosis (type 1) alleles detected.	More about jeb1
Junctional Epidermolysa Bullosis (type 2*)	-/-	LAMA3	No Junctional Epidermolysa Bullosis (type 2*) alleles detected.	More about jeb2*
Warmblood Fragile Foal Syndrome	-/-	PLOD1	No Warmblood Fragile Foal Syndrome alleles detected.	More about WFFS



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Other Genetics

Trait Genetics

Lordosis*	-/-,-/-,+/-,-/-	ECA20	No pattern of Lordosis* alleles detected.	More about L*
Curiosity/Vigilance*	+/+	DRD4	Cur - GG - Two Curiosity alleles detected; likely more curious than vigilant.	More about Cur/Vig
Myostatin/Speed	-/-	MSTN	TT (Endurance Type) - Two Endurance alleles detected; likely Endurance ability over Sprint.	More about MSTN
Gait	-/-	DMRT3	No Gait alleles detected.	More about Gaited

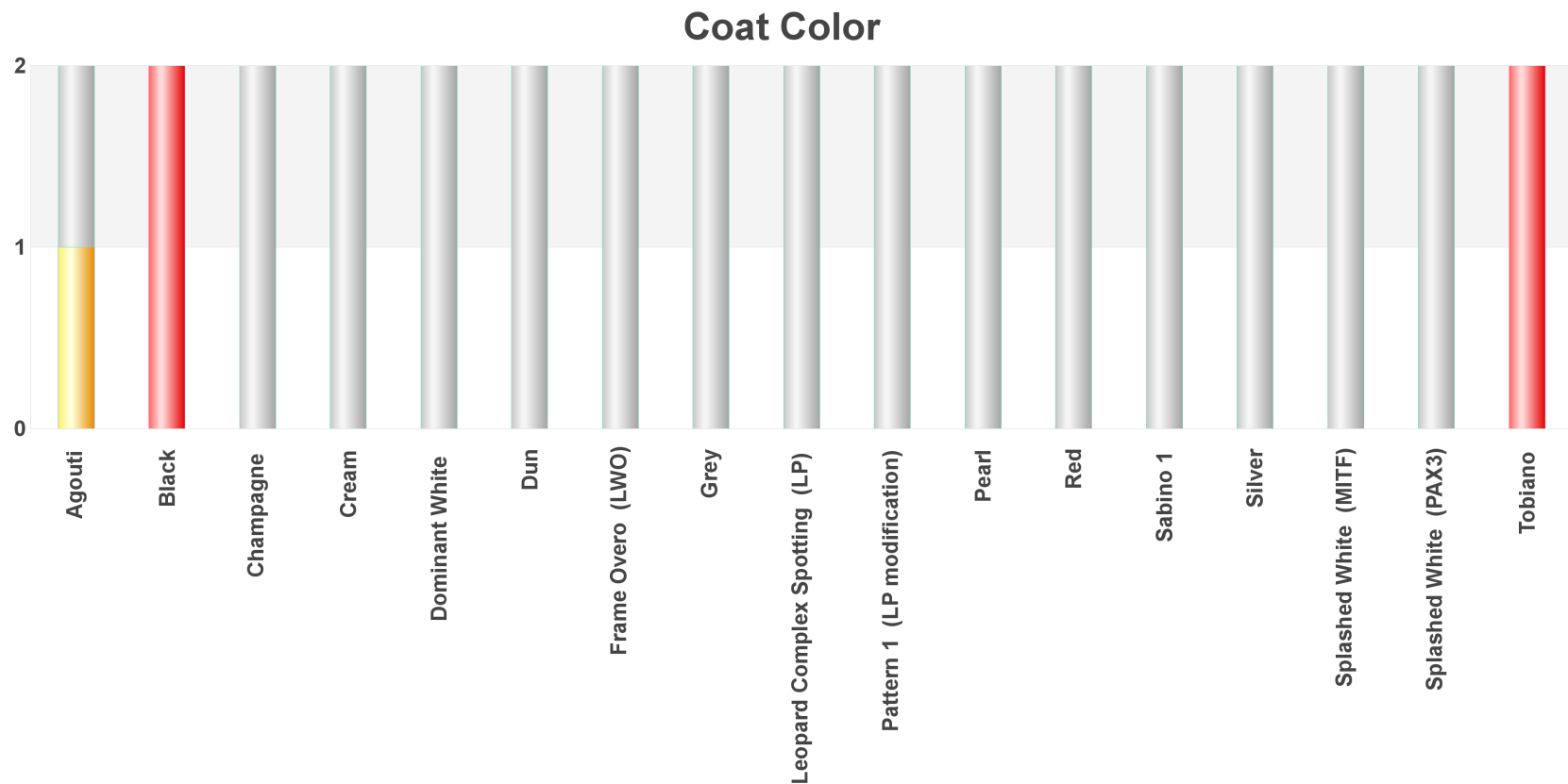


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Inheritance Probabilities



Coat Color Inheritance Probabilities: The bar graph above depicts the number of alleles for specific coat color phenotypes based upon your horse's genetic testing results. Completely filled red bar represents two such alleles (homozygous) and a half-filled yellow bar represents one such allele (heterozygous).



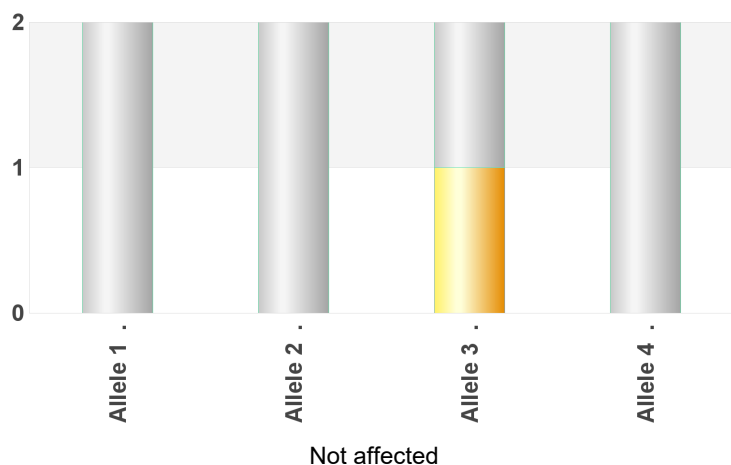
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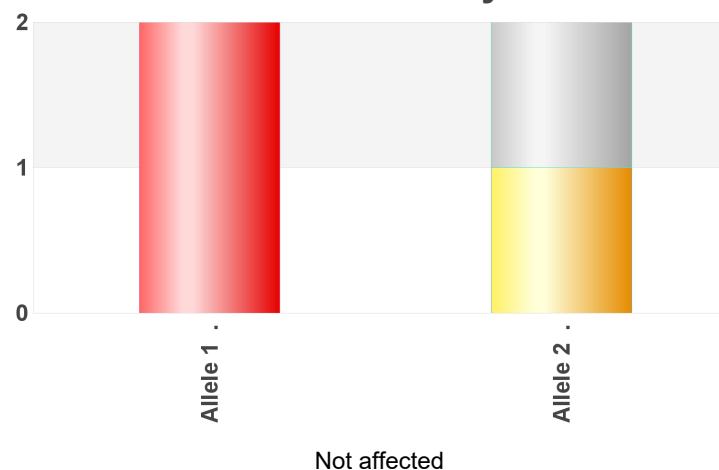
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Inheritance Probabilities

Lordosis



IAR Subfertility*



Multi-allele Risk Charts: Each chart represents a trait, and each bar indicates a distinct risk or allele presence. These act in combination to produce the trait. A red bar indicates the horse carries 2 risk alleles at the site; a partly-yellow bar indicates 1 risk allele; and a fully-grey bar indicates 0 risk alleles. If all bars are red, then the horse carries two risk alleles at each risk site and is likely affected. If all bars contain yellow or red, but are not all red, then the horse is likely a carrier. Otherwise, the horse is not a likely a carrier of the tested trait.



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Defining Genetics & More Info

Allele:	One of two or more alternative forms of a gene that arise by mutation and are found at the same place on a chromosome.
Alleles: Heterozygous vs. Homozygous?	Allele calls are written in a way that denotes their origin and whether they are DOMINANT (uppercase) or recessive (lowercase). For example, at MC1R (also known as extension), Black is dominant and thus written as "E" whereas Red is recessive and thus denoted as "e". Therefore, an EE horse is homozygous for Black (and thus appears black), an ee horse is homozygous for Red (appears Red), and an Ee horse is heterozygous (shows the dominant allele, thus is Black).
Gene:	A unit of heredity that is transferred from a parent to offspring and is thought to determine some characteristic of the offspring.
Genotype:	The genetic constitution or make up of an individual organism.
Heterozygous:	A pair of genes which are different (not the same). One is typically dominant and one recessive.
Homozygous:	A pair of genes that are identical (of one type).
Phenotype:	The observable or visible characteristics of an individual resulting from their genotype or the interaction of their various genes and environment.

The results depicted in this report do not constitute veterinary or medical advice. Any medical or veterinary advice should be sought from your veterinarian regarding these results or any health issues or questions you may have about your animal. Breed, sex, gene interaction, unknown genes and individual variances may impact the results, phenotypes, and behaviors in any animal in unknown and unpredictable ways. Please be advised that your animals' health is important to us and you should feel free to contact us should you have any further questions or feedback on our diagnostic platform, results reporting, or general questions. We value your input and thank you!