Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

Horse and Owner Information

Horse	CPH Roxy Kimi Cool	**DOB**	2018-03-12
Breed	Paints (All)	**Age**	0 years, 1 months
Color	Palomino	**Sex**	Mare
Discipline	Reining	**Height**	. . . . .
Registry	APHA	**Reg Number**	pending
Sire	CPH NEILS KANDA ICE	**Dam**	SILBURY KIMIMILA
Sire Reg & No.	APHA 1042192	**Dam Reg & No.**	APHA 981133
Comments	. . . . .		

Owner	Cecile Penverne	**Address**	la villeneuve zinsec
Phone	662307475	**City, State**	BernÃ©
Email	cymelapainthorse@free.fr	**Postal Code**	56240, France

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

Results Summary

Coat Color:	CPH Roxy Kimi Cool has two Red alleles and no Black, indicating her base coat color appears Red. One Cream allele was detected which may dilute base coat, possibly appearing Palomino on a Red base. One Tobiano allele was detected which may result in White markings. As a result of the allele count in each of the following, she has a minimum 100% chance of passing Red, and 50% Tobiano to any offspring.
Allele Summary:	**aa, ee, CR/n, nd1/nd2, TO/n, CC (Sprint Type)**
Traits:	CPH Roxy Kimi Cool has not tested positive for any recessive disease alleles on this panel. *Her DNA was also tested on our discovery/validation platform for non-Dun Primitive Markings. Preliminary results indicate she 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).

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

Coat Color Results

Base

Agouti	-/-	***ASIP***	aa - No dominant Agouti alleles detected; restricts any Black base to appear Bay.	More about A
Black/Red	-/-	***MC1R***	ee - No Black alleles detected and two 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***	CR/n - One Cream allele 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

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

Coat Color Results, continued

White Patterns Results

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

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

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

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

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***	Two 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*

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

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***	CC (Sprint Type) - Two Sprint alleles detected; likely Sprint ability over Endurance.	More about MSTN
Gait	-/-	***DMRT3***	No Gait alleles detected.	More about Gaited

Genetic Profile Test Results

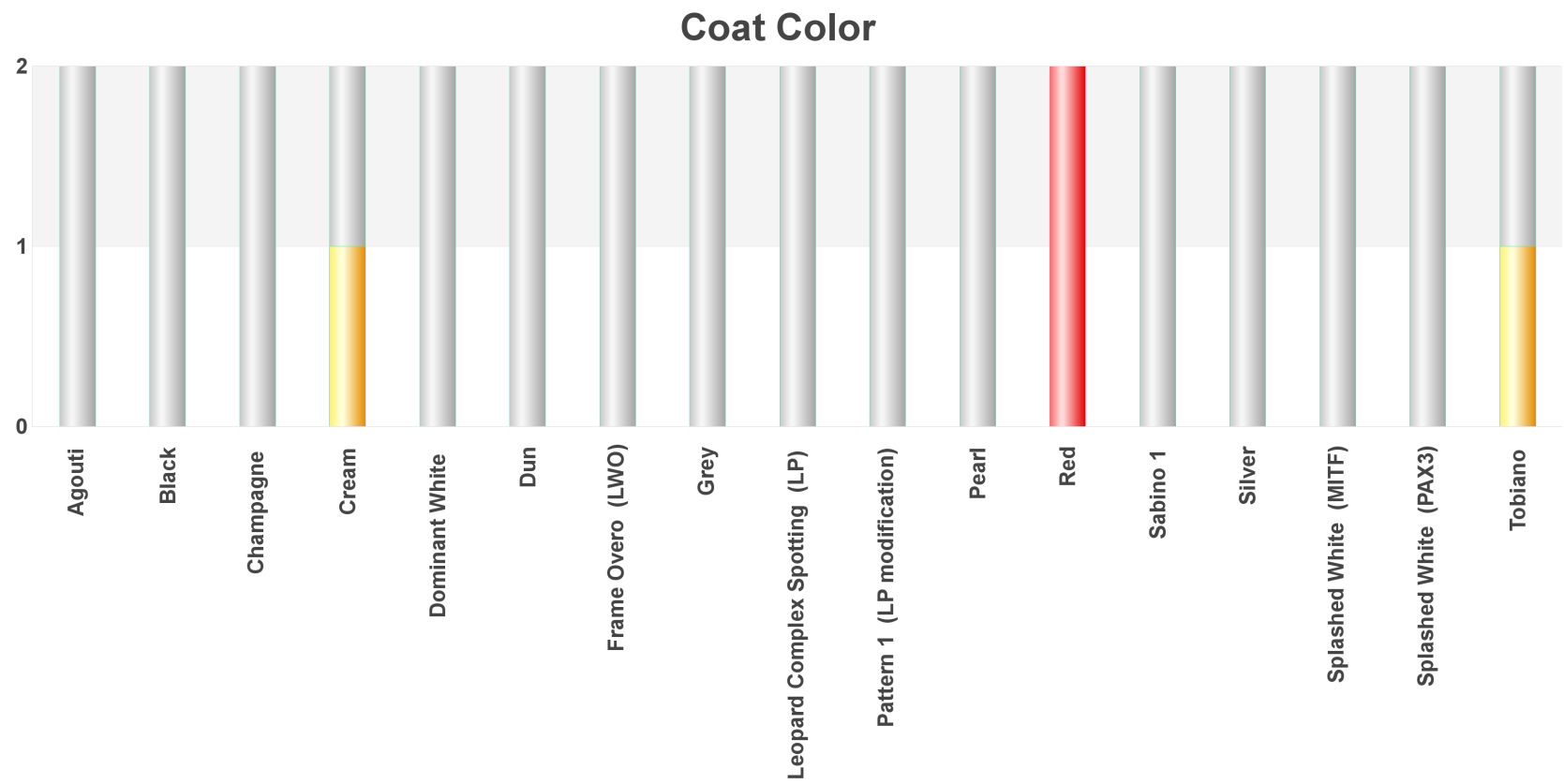
HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

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).

Genetic Profile Test Results

Horse: CPH Roxy Kimi Cool

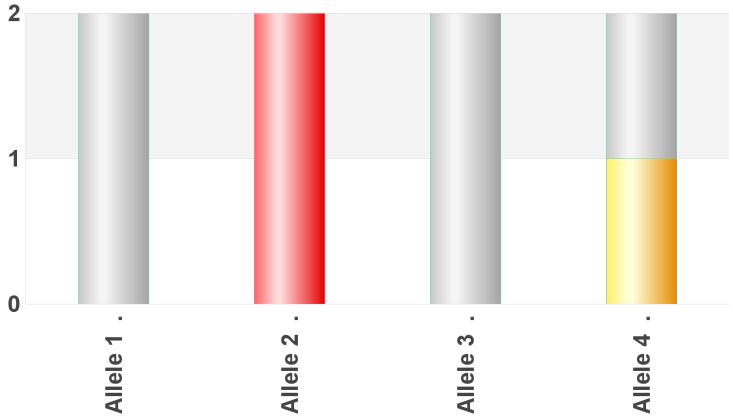
Owner: Cecile Penverne

HORSE ID: 041418 016

PACK: APHA

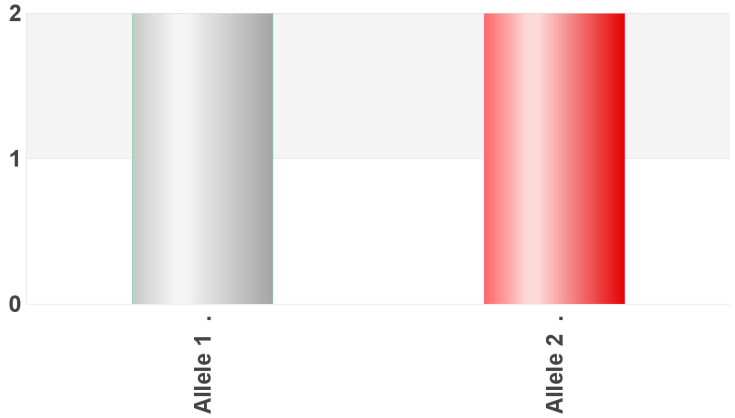
Inheritance Probabilities

Lordosis



Not affected

IAR Subfertility*



Not affected

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.

Genetic Profile Test Results

HORSE ID: 041418 016

Horse: CPH Roxy Kimi Cool

PACK: APHA

Owner: Cecile Penverne

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 of 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!