



## Genetic Profile Test Results

HORSE ID: 121419 015

**Horse:** Turnpikers Wagon

PACK: APHA

**Owner:** Kacey Brunner

### Horse and Owner Information

<b>Horse</b>	Turnpikers Wagon	<b>DOB</b>	.....
<b>Breed</b>	American Paint Horse	<b>Age</b>	.....
<b>Color</b>	Black	<b>Sex</b>	stallion
<b>Discipline</b>	Barrel Racing, Racing	<b>Height</b>	15 hands
<b>Registry</b>	American Paint Horse Association	<b>Reg Number</b>	.....
<b>Sire</b>	PYC Paint Your Wagon	<b>Dam</b>	High Class Turnpike
<b>Sire Reg &amp; No.</b>	American Quarter Horse Association	<b>Dam Reg &amp; No.</b>	American Paint Horse Association
<b>Comments</b>	Description: Tobiano		

<b>Owner</b>	Kacey Brunner	<b>Address</b>	16429 County Road 1104
<b>Phone</b>	9035219573 / 9035219573	<b>City, State</b>	Flint, TX
<b>Email</b>	lazysusanranch@gmail.com	<b>Postal Code</b>	75762



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### Results Summary

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

**Variant Summary:** **Aa, EE, nd1/nd2, TO/n**  
**Myostatin: Sprint Type**

**6 panel negative: GBED n/n, HERDA n/n, HYPP n/n, MH n/n, PSSM1 n/n, LWO n/n**

**Traits:** Turnpikers Wagon has not tested positive for any recessive disease variants on this panel. \*The DNA was also tested on our discovery/validation platform for non-Dun Primitive Markings. Preliminary results indicate this horse 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	+/-	<b>ASIP</b>	Aa - One dominant Agouti variant detected; restricts any Black base to appear Bay.	More about A
Black/Red	+/+	<b>MC1R</b>	EE - Two Black variants detected and no Red.	More about E

### Modifier

Brindle/IP	-/-	<b>IKBKG</b>	No Brindle/IP variants detected.	More about IP
Grey	-/-	<b>STX17A</b>	No Grey variants detected.	More about G

### Dilution

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



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### Coat Color Results, continued

#### White Patterns Results

<b>Dominant White</b>	-/-	<b><i>KIT</i></b>	No Dominant White variants detected (DW1-21).	<a href="#">More about DW</a>
<b>Frame Overo (LWO)</b>	-/-	<b><i>EDNRB</i></b>	No Frame Overo (LWO) variants detected.	<a href="#">More about LWO</a>
<b>Leopard Complex Spotting (LP)</b>	-/-	<b><i>TRPM1</i></b>	No Leopard Complex Spotting (LP) variants detected.	<a href="#">More about LP</a>
<b>Pattern 1 (LP modification)</b>	-/-	<b><i>RFWD3</i></b>	No Pattern 1 (LP modification) variants detected.	<a href="#">More about PATN1</a>
<b>Splashed White (MITF)</b>	-/-,-/-	<b><i>MITF</i></b>	No Splashed White 1 or Splashed White 3 variants detected.	<a href="#">More about SW (MITF)</a>
<b>Splashed White (PAX3)</b>	-/-,-/-	<b><i>PAX3</i></b>	No Splashed White 2 or Splashed White 4 variants detected.	<a href="#">More about SW (PAX3)</a>
<b>Sabino 1</b>	-/-	<b><i>KIT</i></b>	No Sabino variants detected.	<a href="#">More about SB1</a>
<b>Tobiano</b>	+/-	<b><i>ECA3</i></b>	TO/n - One Tobiano variant detected.	<a href="#">More about TO</a>



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## Health Genetics 1

### Immune System

Foal Immunodeficiency Syndrome	-/-	<i>SLC5A3</i>	No Foal Immunodeficiency Syndrome variants detected.	More about fis
Severe Combined Immunodeficiency	-/-	<i>DNAPK</i>	No Severe Combined Immunodeficiency variants detected.	More about scid
West Nile Virus Susceptibility*	-/-	<i>OAS1</i>	Normal susceptibility to West Nile Virus symptoms.	More about WNVR*
Immune-mediated Myositis*	**	<i>MYH1</i>	**Upon request only, inquire about upgrade.	More about IMM*

### Muscle Disorders

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



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## Health Genetics 2

### Neurologic Disorders

Cerebellar Abiotrophy	-/-	<i>MUTYH</i>	No Cerebellar Abiotrophy variants detected.	<a href="#">More about ca</a>
Lavender Foal Syndrome	-/-	<i>MYO5A</i>	No Lavender Foal Syndrome variants detected.	<a href="#">More about lfs</a>

### Reproductive Disorders

Androgen Insensitivity	-/-	<i>AR</i>	No Androgen Insensitivity variants detected.	<a href="#">More about as</a>
IAR - Subfertility*	-/-, +/+	<i>FKBP6</i>	Two IAR Subfertility* variants detected; likely no effect.	<a href="#">More about iar*</a>

### Skin Disorders

Hereditary Equine Regional Dermal Asthenia	-/-	<i>PPIB</i>	No Hereditary Equine Regional Dermal Asthenia variants detected.	<a href="#">More about herda</a>
Junctional Epidermolysa Bullosis (type 1)	-/-	<i>LAMC2</i>	No Junctional Epidermolysa Bullosis (type 1) variants detected.	<a href="#">More about jeb1</a>
Junctional Epidermolysa Bullosis (type 2*)	-/-	<i>LAMA3</i>	No Junctional Epidermolysa Bullosis (type 2*) variants detected.	<a href="#">More about jeb2*</a>



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## Other Genetics

### Trait Genetics

<b>Lordosis*</b>	-/-,+/+,+/-,+/+	<b>ECA20</b>	No pattern of Lordosis* variants detected.	More about L*
<b>Curiosity/Vigilance*</b>	-/-	<b>DRD4</b>	Two Vigilance variants detected; likely more vigilant than curious.	More about Cur/Vig
<b>Myostatin/Speed</b>	+/+	<b>MSTN</b>	Two Sprint variants detected; likely Sprint ability over Endurance.	More about MSTN
<b>DMRT3</b>	-/-	<b>DMRT3</b>	No DMRT3 variants detected.	More about DMRT3

### New Additions for 2019

<b>Equine Recurrent Uveitis (Risk)*</b>	***	<b>ECA18</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about ERU
<b>Equine Recurrent Uveitis (Severity)*</b>	***	<b>ECA20</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about ERU
<b>Equine Metabolic Syndrome*</b>	***	<b>FAM174A</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about EMS
<b>Laminitis Risk*</b>	***	<b>FAM174A</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about LAM
<b>Squamous Cell Carcinoma*</b>	***	<b>DDB2</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about SCC
<b>Tiger Eye*</b>	***	<b>SLC24A5</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about Tiger Eye
<b>Dwarfism*</b>	***	<b>ACAN</b>	***DNA Minipanel PLUS only, inquire about upgrade.	More about Dwarfism



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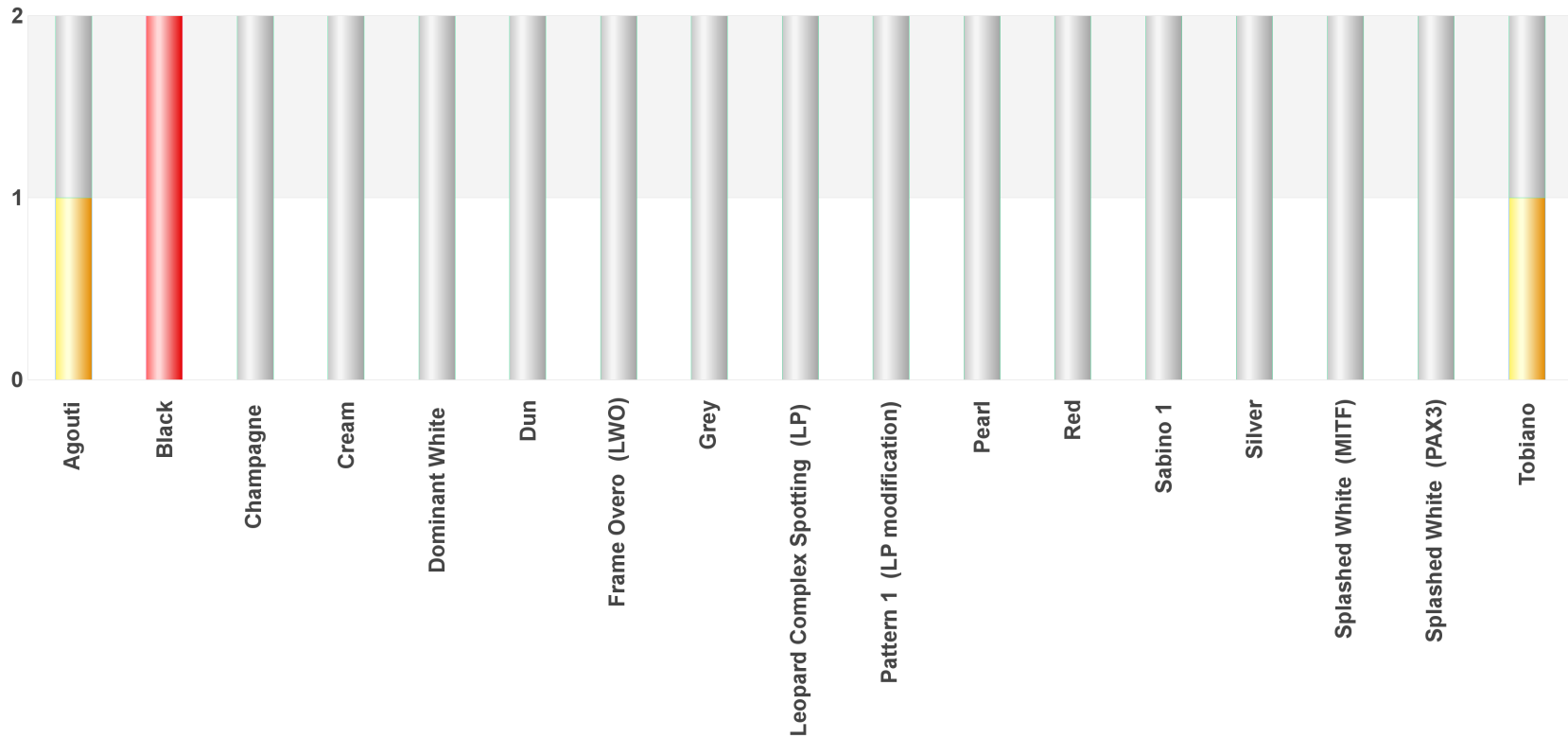
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## Inheritance Probabilities

### Coat Color



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





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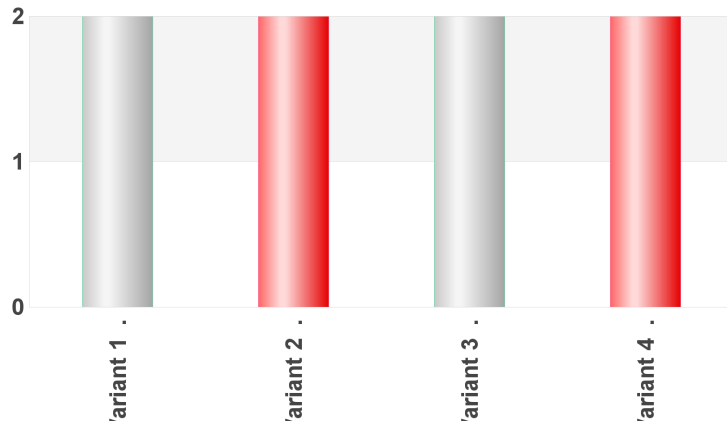
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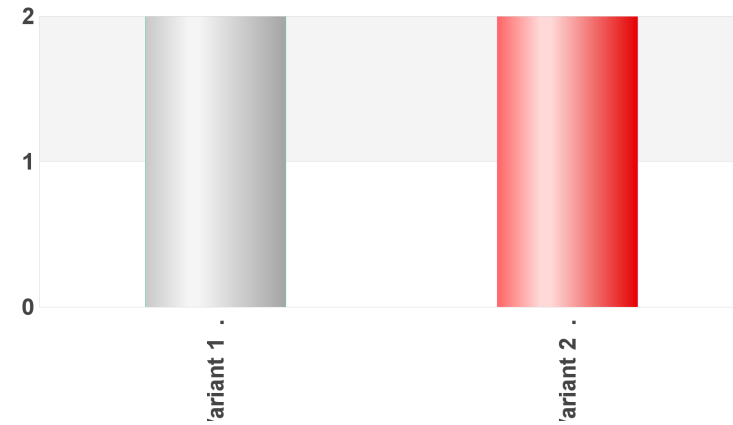
## Inheritance Probabilities

### Lordosis



Not affected

### IAR Subfertility\*



Not affected

Multi-variant Risk Charts: Each chart represents a trait, and each bar indicates a distinct risk or variant presence. These act in combination to produce the trait. A red bar indicates the horse carries 2 risk variants at the site; a partly-yellow bar indicates 1 risk variant; and a fully-grey bar indicates 0 risk variants. If all bars are red, then the horse carries two risk variants 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 carrier of the tested trait.



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### Defining Genetics & More Info

<b>Variant:</b>	One of two or more alternative forms of a gene that arise by mutation and are found at the same place on a chromosome.
<b>Variants: Heterozygous vs. Homozygous?</b>	Variant 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 variant, thus is Black).
<b>Gene:</b>	A unit of heredity that is transferred from a parent to offspring and is thought to determine some characteristic of the offspring.
<b>Genotype:</b>	The genetic constitution or make up of an individual organism.
<b>Heterozygous:</b>	A pair of genes which are different (not the same). One is typically dominant and one recessive.
<b>Homozygous:</b>	A pair of genes that are identical (of one type).
<b>Phenotype:</b>	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!