UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



CO 5 SANTA BARBARA • SANTA CRUZ

VETERINARY GENETICS LABORATORY SCHOOL OF VETERINARY MEDICINE ONE SHIELDS AVENUE DAVIS, CALIFORNIA 95616-8744

HORSE COAT COLOR TEST RESULTS

TELEPHONE: (530) 752-2211

FAX: (530) 752-3556

GWENITH MOBERLY 26 J. MONGOMERY RD BUSSELLVILLE KX 42276				Case: Date Received:	NQ33146 27-Sep-2016
KUSS	SELL VILLE, K	1 42270		<i>Print Date:</i> <i>Report ID:</i> Verify report at ww	02-Oct-2016 7752-0202-5490-5013 w.vgl.ucdavis.edu/myvgl/verify.html
Horse: ALEN'S WINDWALKER Reg: 21301251					
DOB: 04/25/2013 Sex: Stallion Breed: Tennessee Walking Horse					
Sire: BA	NDIT'S GOLD AI	LANTE'	<i>Reg:</i> 20901158		
Dam: ALEN'S SPLENDID LADY			<i>Reg:</i> 20314005		
RED FACTOR	E/E	No red factor detected. Horse cannot have red foals regardless of the color of mate. Basic color is black, bay or brown in the absence of other modifying genes.	DOMINANT WHITE (W5, W W20)	10,	Not requested.
AGOUTI		Not requested.	SPLASHED WHITE		Not requested.
CREAM		Not requested.	TOBIANO	ТО/ТО	Two copies of altered sequence. Horse is homozygous for Tobiano. All offspring will inherit Tobiano.
PEARL		Not requested.	LEOPARD		Not requested.
SILVER		Not requested.	PATTERN-1		Not requested.
DUN		Not requested.	GRAY		Not requested.
CHAMPAGNE		Not requested.	ROAN		Not requested.
LETHAL WHITE OVERO		Not requested.			
SABINO 1		Not requested.			

For more detailed information on Horse Coat Color results, please visit: www.vgl.ucdavis.edu/services/coatcolorhorse.php

Horse Coat Color Results with Explanations

Red Factor

e/e - Only the red factor detected. Basic color is sorrel or chestnut in the absence of other modifying genes. E/e - Both black and red factors detected. Either E or e transmitted to offspring. Basic color is black, bay or brown in the absence of other modifying genes.

E/E - No red factor detected. Horse cannot have red foals regardless of the color of mate. Basic color is black, bay or brown in the absence of other modifying genes.

<u>Agouti</u>

A/A - Black pigment distributed in points pattern. Basic color is bay or brown in the absence of other modifying genes.

A/a - Black pigment distributed in points pattern. Basic color is bay or brown in the absence of other modifying genes.

a/a - Only recessive allele detected. Black pigment distributed uniformly. Basic color is black in the absence of other modifying genes.

<u>Cream</u>

 $N\!/N$ - No evidence for the Cream dilution altered sequence detected. Basic color is sorrel or chestnut, bay or black in the absence of other modifying genes.

N/Cr - Heterozygous, dilute, one copy of Cream gene. Typical colors are palomino, buckskin and smoky black in the absence of other modifying genes.

Cr/Cr - Double dilute (two copies of Cream gene). Typical colors are cremello, perlino and smoky cream in the absence of other modifying genes.

Pearl

 $N\!/N$ - No evidence of the altered sequence detected.

N/Prl - One copy of the altered sequence detected. If Cream dilution is also present, a pseudo-double Cream dilute phenotype will result.

Prl/Prl - Two copies of the altered sequence detected. On a chestnut base color, a uniform apricot color of body hair, mane and tail will result.

<u>Tobiano</u>

N/N - No evidence of altered sequence detected. Horse is not Tobiano.

N/TO - One copy of altered sequence. Approximately 50% of the offspring will inherit Tobiano.

TO/TO - Two copies of altered sequence. Horse is homozygous for Tobiano. All offspring will inherit Tobiano.

Dominant White (W5, W10, W20)

 $N\!/N$ - No evidence of altered sequences for W5, W10 or W20 mutations detected.

N/W5 - One copy of W5 mutation detected. Horse will display some degree of white spotting but the specific pattern cannot be predicted.

W5/W10 - One copy each of W5 and W10 detected. Horse will display white spotting and may be completely white.

W5/W20 - One copy each of W5 and W20 detected. Horse will display white spotting and may be completely white.

W5/W5 - Two copies of W5 mutation detected. Horse will display white spotting and may be completely white.

N/W10 - One copy of W10 mutation detected. Horse will display some degree of white spotting but the specific pattern cannot be predicted.

W10/W20 - One copy each of W10 and W20 detected. Horse will display white spotting and may be completely white.

W10/W10 - Two copies of W10 mutation detected. Horse will display white spotting and may be completely white.

N/W20 - One copy of W20 mutation detected. W20 has subtle or no effect on white spotting. Horse may display extended white markings.

W20/W20 - Two copies of W20 mutation detected. W20 has subtle or no effect on white spotting. Horse may display extended white markings.

Leopard / Appaloosa

 $N\!/N$ - No copies of Leopard Complex (Appaloosa) spotting.

LP/N - 1 copy of Leopard Complex mutation, 50% of offspring will inherit the Leopard gene.*

LP/LP - 2 copies of Leopard Complex mutation, all offspring will inherit the Leopard gene.* Horse has congenital stationary night blindness (CSNB).

* Expression of Leopard Complex is variable and white patterning may not be present in all horses that inherit the gene.

Appaloosa Pattern-1

N/N - No copies of PATN1.

LP/N - 1 copy of PATN1, 50% of offspring will inherit the modifier mutation.*

LP/LP - 2 copies of PATN1 mutation, all offspring will inherit the PATN1 mutation.*

* In order for high levels of white spotting to be visible on horses that inherit PATN1, LP must also be present.

<u>Gray</u>

 $N\!/N$ - No copies of the gray gene. Horse will not turn gray.

 $N\!/G$ - One copy of the gray gene. Horse will turn gray and approximately 50% of offspring will be gray.

G/G - Two copies of the gray gene. Horse will turn gray and all offspring will be gray.

Silver

 $N\!/N$ - No evidence of the altered sequence detected.

 $N\!/Z$ - One copy of the altered sequence detected. Black-based horses will be chocolate with flaxen or lightened mane and tail. Bay-based horses will have lightened black pigment on lower legs, mane and tail. No effect on chestnut color.

Z/Z - Two copies of altered sequence detected. Black-based horses will be chocolate with flaxen or lightened mane and tail. Bay-based horses will have lightened black pigment on lower legs, mane and tail. No effect on chestnut color.

Lethal White Overo

N/N - No evidence for the altered sequence detected.

N/O - One copy of the altered sequence detected. If bred to another N/O horse, there is a 25% chance of producing a lethal white overo foal. The N/O type has been detected in Paints (including breeding stock), Pintos, Thoroughbreds, Miniatures, Quarter Horses and Tennessee Walking Horses.

O/O - Only the altered sequence in the EDNRB gene detected. This result has only been obtained with samples from lethal white overo foals.

Sabino 1

 $N\!/N$ - No evidence of altered sequence detected.

N/SB1 - One copy of the Sabino 1 gene detected. Horse typically may have 2 or more white legs, blaze, spots or roaning in the midsection and jagged margins around white areas.

SB1/SB1 - Two copies of the Sabino 1 gene detected. Complete or nearly complete white phenotype expected.

Champagne

N/N - No evidence of altered sequence detected.

N/Ch - One copy of the altered sequence detected. Chestnut color (red) is diluted to gold, bay to tan with brown points and black to darker tan with brown points.

Ch/Ch - Two copies of the altered sequence detected. All offspring are expected to be Champagne diluted.

<u>Dun</u>

D/D - Horse has 2 copies of Dun dilution. All foals will be dun-diluted.

D/nd1 - Horse has 1 copy of Dun dilution and 1 copy of nd1.

 $D\!/nd2$ - Horse has 1 copy of Dun dilution and 1 copy of nd2.

nd1/nd1 - Horse is not Dun dilute and has 2 copies of nd1. Primitive markings may be present.

nd1/nd2 - Horse is not Dun dilute and has 1 copy each of nd1 and nd2. Primitive markings may be present.

nd2/nd2 - Horse is not Dun dilute and has 2 copies of nd2. Primitive markings are absent.

Splashed White

<u>SW-1</u>

N/N - No copies of SW-1 mutation.

N/SW1 - Horse has one copy of the SW-1 mutation.

SW1/SW1 - Horse has two copies of the SW-1 mutation.

<u>SW-2</u>

N/N - No copies of SW-2 mutation.

 $N\!/SW2$ - Horse has one copy of the SW-2 mutation.

<u>SW-3</u>

N/N - No copies of SW-3 mutation.

N/SW3 - Horse has one copy of the SW-3 mutation.

<u>Roan</u>

Rn/Rn - 2 copies of Classic Roan variant are present. All offspring will inherit Classic Roan.

Rn/N - 1 copy of Classic Roan variant is present. 50% of offspring will inherit Classic Roan.

 Rn^*/Rn^* - 2 copies of an alternative Roan variant are present. All offspring will inherit the alternative Roan variant.

Rn/Rn* - 1 copy of Classic Roan and 1 copy of an alternative Roan variant are present. All offspring will inherit either Classic Roan or the alternative Roan variant.

Rn*/N - 1 copy of an alternative Roan variant is present.

N/N - No copies of Roan are present.

The Roan Zygosity test is not a direct test for the Roan gene. The analysis is based on markers associated with Classic Roan in Belgian Draft Horses, Gypsy Cobs, Miniature Horses, Quarter Horses, Tennessee Walking Horses and Welsh Ponies.

Note: There are horses with a roaned appearance that test negative for the Classic Roan gene. The genetic basis for this pattern called roaning is not known at this time.