UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

HORSE COAT COLOR / PATTERN TEST REPORT

Provided Information:

Name: **KIT KAT SUGAR**

Registration: **5157691**

Case: **NQ114824**
Date Received: 12-Sep-2024
Report Issue Date: 12-Feb-2025
Report ID: 2282-7068-2093-5122

Verify report at vgl.ucdavis.edu/verify

DOB: **04/19/2008** *Sex:* **Stallion** *Breed:* **Quarter Horse**

	RESULT	INTERPRETATION
RED FACTOR	**e/e**	Only red factor detected. Basic color is red in the absence of modifying genes.
AGOUTI	**A/A**	2 copies of agouti present. If present, black pigment is restricted to the points.
CREAM	**N/N**	No copies of Cream dilution detected.
PEARL	**N/N**	No copies of Pearl dilution detected.
SILVER	**N/N**	No copies of Silver dilution detected.
DUN	**nd1/nd2**	Horse is not Dun dilute but may have primitive markings.
CHAMPAGNE	**N/N**	No copies of Champagne dilution detected.
LETHAL WHITE OVERO	**N/N**	No copies of lethal white overo detected.
SABINO 1	**N/N**	No copies of Sabino 1 detected.
DOMINANT WHITE (W5, W10, W13, W20, W22)	**N/N**	No copies of W5, W10, W13, W20 or W22 detected.

	RESULT	INTERPRETATION
SPLASHED WHITE (SW1, SW3, SW5, SW6, SW7, SW8)	**N/N**	No copies of MITF Splashed White detected.
SPLASHED WHITE (SW2, SW4)	**N/N**	No copies of PAX3 Splashed White detected.
TOBIANO	**N/N**	No copies of Tobiano detected.
LEOPARD	**N/N**	No copies of Leopard Complex detected.
PATTERN-1	**N/N**	No copies of PATN1 detected.*
BRINDLE 1		Not requested.
TIGER EYE		Not requested.
MUSHROOM (SHETLAND PONY)		Not requested.
GRAY PRESENCE OR ABSENCE	**Absent**	Gray variants were not detected. Horse will not gray.
ROAN		Not requested.

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Client/Owner/Agent Information:	*Case:* **NQ114824**
DREW KNOWLES	***Date Received:*** 12-Sep-2024
1410 SILVERADO DR	***Report Issue Date:*** 12-Feb-2025
WEATHERFORD, TX 76087	***Report ID:*** 2282-7068-2093-5122
	Verify report at vgl.ucdavis.edu/verify

Name: **KIT KAT SUGAR**

Additional Information

If testing for a disease or a disorder was performed and results indicate the animal is affected or at risk, we recommend contacting your veterinarian for further clinical evaluation and for additional information on disease and management.

For more detailed information on Coat Color test results, please visit our website at:
vgl.ucdavis.edu/resources/horse-coat-color

*Pattern-1: In order for high levels of white spotting to be visible on horses that inherit PATN1, LP must also be present.

License Information

Tests for Tobiano are performed under license.

For terms and conditions of testing, please see vgl.ucdavis.edu/about/terms-and-conditions

Results are determined using PCR-based methods. The results relate only to the sample tested as identified by the submitter (for example, identity and/or breed).

Report authorized by Dr. Rebecca Bellone, VGL Director

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17025 TESTING LABORATORY

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Red Factor and Agouti

Horse coat color depends on many genes. There are two known genes that contribute to a horse's base color, namely Agouti (also known as Agouti Signaling Protein or *ASIP* for short) and Red Factor (also known as extension or *MC1R*).

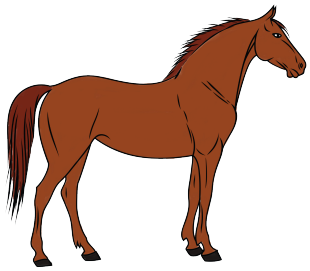
Genetic variation at the Agouti and Red Factor loci work together to determine the base coat color as well as the color of a horse's points (mane, tail, lower legs, and ear rims). Together these genes determine if a horse is chestnut/sorrel (shade of red body and red points), bay (shade of red body with black points), or black (black body and black points).

Agouti controls the distribution of black pigment, and alleles of this gene determine whether a horse will have a bay or black base coat color. The dominant **A** allele restricts black to the points. To read more about Agouti, visit https://vgl.ucdavis.edu/test/agouti-horse.

Red factor is responsible for determining whether a horse will have a chestnut base coat color or not. Horses with two recessive alleles (e or e^a) will be chesnut regardless of the genotype at the agouti locus. Horses with at least one dominant allele (E) will not be chesnut, and whether they are bay or black is dependent on the genotype at the agouti locus. To read more about Red Factor, visit https://vgl.ucdavis.edu/test/red-factor-horse.

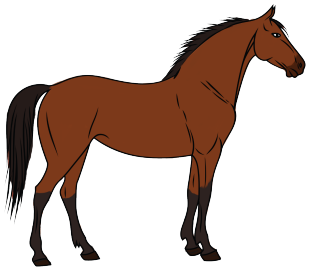
Genotype results for Agouti and Red Factor can be helpful in predicting breeding outcomes.

Please note that additional known and yet unknown genes influence shade, dilution, and white patterning, and ultimately the overall coat color phenotype observed.



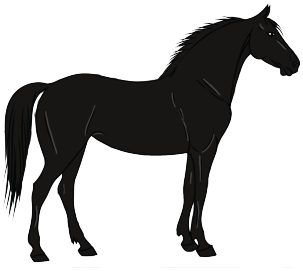
Chestnut or Sorrel

Possible genotypes:
e/e A/a
e/e A/A
e/e a/a



Bay

Possible genotypes:
E/e A/a
E/e A/A
E/E A/a
E/E A/A



Black

Possible genotypes:
E/e a/a
E/E a/a

For more on horse coat color visit. https://vgl.ucdavis.edu/resources/horse-coat-color.