



American Morgan Horse Association, Inc.  
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# COAT COLOR TESTING APPLICATION

**COAT COLOR TESTING IS OPTIONAL.** If the horse being tested tests positive for a specific coat color gene, that information can be recorded on the horse's registration certificate (a \$25 printing fee applies).

Horse's Name: \_\_\_\_\_

Registration Number: \_\_\_\_\_

AVAILABLE COAT COLOR TESTS	
(See reverse for descriptions)	
<input type="checkbox"/> Cream Dilution	<input type="checkbox"/> Gray
<input type="checkbox"/> Red Factor and Agouti	<input type="checkbox"/> Splash
<input type="checkbox"/> Sabino 1	<input type="checkbox"/> Dun
<input type="checkbox"/> Silver	<input type="checkbox"/> Dominant White Pattern
<input type="checkbox"/> Lethal White Overo	

FEES (check appropriate box)		
	Member	Non-Member
First Coat Color Test .....	\$40 <input type="checkbox"/>	\$125 <input type="checkbox"/>
Each additional Coat Color Test on same horse .....	\$25 <input type="checkbox"/>	\$110 <input type="checkbox"/>
RUSH FEE (charge per horse) .....	\$100 <input type="checkbox"/>	\$100 <input type="checkbox"/>
<i>*AMHA membership applications can be found at <a href="http://www.morganhorse.com">www.morganhorse.com</a> or by contacting AMHA.</i>		
Reissue certificate with coat color test results..... (original certificate must be submitted)	\$25 <input type="checkbox"/>	\$110 <input type="checkbox"/>

Coat color tests can only be requested by the owner or lessee of the Morgan horse.

*I understand that upon receipt of this application and the appropriate fee, the Coat Color testing kit will be requested directly from the lab. Should the lab run out of sample, a replenishment kit will be sent to the owner/lessee. Results will be mailed/emailed to the owner/lessee.*

*I understand that the Coat Color report is the exclusive property of The American Morgan Horse Association and all new DNA records may be tested against DNA on record to affirm parentage. I further understand that the results of this test may be verbally disclosed upon request; however the results will not be interpreted by AMHA. The results will not appear on the registration certificate for the subject horse nor any of its descendants.*

**Signature of Owner(s) or Lessee (or Authorized Agent)**

X \_\_\_\_\_ AMHA Account No.: \_\_\_\_\_

X \_\_\_\_\_ AMHA Account No.: \_\_\_\_\_

Telephone: \_\_\_\_\_

Make checks payable to: **AMHA Registry**

Please bill my:  VISA     MASTERCARD     DISCOVER     AMERICAN EXPRESS

Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_ CVV: \_\_\_\_\_ Amount: \$ \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

If this transaction is not completed within 120 days, the work will be returned and a cancellation fee will be assessed.  
 Current eligibility and Registry fees will apply upon resubmission.

# COAT COLOR TESTING APPLICATION

## IN ORDER TO SAY “COAT COLOR VERIFIED,” HORSES MUST HAVE THE FOLLOWING COLOR TEST:

- **CHESTNUT OR BLACK:** *Red Factor/Agouti test*
- **PALOMINO, BUCKSKIN, SMOKY BLACK, CREMELLO, PERLINO OR SMOKY CREAM:** *Red Factor/Agouti test and Cream Dilution test*
- **SILVER:** *Red Factor/Agouti test and Silver test*
- **GRAY:** *Red Factor/Agouti test and Gray test*
- **SPLASH:** *Red Factor/Agouti test and Splash test*

## COAT COLOR DESCRIPTIONS

### CREAM DILUTION

The Cream dilution gene is responsible for the palomino, buckskin, smoky black, cremello, perlino and smoky cream coat colors. There are two alleles: CCr and C. CCr is semi-dominant and dilutes red to yellow in single dose (palominos, buckskins, smoky blacks) and to pale cream in double dose (cremellos, perlinos, smoky cream). Cream dilution can have a very subtle effect on black pigment.

### RED FACTOR

Red is inherited as a recessive trait. The Red factor test can identify horses that carry the red factor but don't display it. The Extension gene (red factor) has two alleles. The dominant allele “E” produces black pigment in the coat. The recessive allele “e” produces red pigment. Red horses such as chestnuts or palominos have two alleles for the recessive red allele “ee” making them homozygous. Black pigmented horses such as blacks, bays, browns and buckskins have at least one “E” allele. They can be homozygous “EE” or heterozygous “Ee”. A horse that is homozygous “EE” will not produce red offspring, regardless of the color of the mate.

### AGOUTI (BAY/BLACK)

The Agouti gene controls the distribution of black pigment. The dominant allele “A” restricts black pigment to the points of the horse (mane, tail, lower legs and ear rims), as seen in bays and buckskins. The recessive allele “a” uniformly distributes black pigment over the entire body. Breeders interested in producing black horses need to have breeding stock carrying the “a” allele, in addition to the “E” allele of the Extension gene.

### SABINO 1

Sabino is a generic description for a group of similar white spotting patterns. The sabino pattern is described as irregular spotting usually on the legs, belly and face, often with extensive roaning. A mutation has recently been discovered that produces one type of sabino pattern. It has been named Sabino1 as it is not present in all sabino-patterned horses (more mutations will probably be identified that account for other sabino patterns).

### SILVER DILUTION

The Silver dilution gene dilutes black pigment but has no effect on red pigment. The mane and tail are lightened to flaxen or silver gray, and may darken on some horses as they age. A solid black

horse with this gene will be chocolate colored with a lightened mane and tail. A bay horse will have the black pigment on the lower legs, mane and tail lightened. Sometimes bay horses with Silver dilution can be mistaken for chestnuts with a flaxen mane and tail. Silver dilution is inherited as a dominant trait.

### LETHAL WHITE OVERO

Breeding programs specializing in overo have particular challenges. Not only is there the possibility of producing a solid dark foal without the overo pattern but there is also the risk of producing an all-white foal that dies of complications from intestinal tract abnormalities (ileocolonic aganglionosis). Occasionally even solid-colored horses without obvious body spotting patterns have produced lethal white foals. The spotting pattern classified as overo is phenotypically and genetically heterogeneous. Breeders can test horses for this mutation to avoid producing lethal white foals and to identify new pedigree sources of the overo gene.

### GRAY

Identifies presence and dosage (1 or 2 copies) for the Gray gene.

### SPLASH

Splashed white is a variable white spotting pattern characterized primarily by extremely large blaze, extended white markings in legs, variable white spotting in belly, and often blue eyes.

### DUN

Dun is a dominant gene that dilutes the color of body hair, leaving the points and head unaffected. Dun horses also show “primitive markings” consisting of a dark dorsal stripe, leg barring, shoulder stripes and concentric marks on the forehead (spiderwebbing, cobwebbing). The dorsal stripe appears to be a consistent feature of dun horses while the other “primitive marks” vary and may not all be present, or visible. The effect of the Dun gene on the base colors of chestnut, bay and black produces horses with shades that range from apricot, golden, dark gray, olive, and many, more subtle, variations.

### DOMINANT WHITE PATTERN

Identifies the W5, W10, and W20 mutations for owners who want to breed horses for Dominant White or to determine the genetic status of horses with unknown white patterns.