

Genetic profile test results

Horse and owner information

HORSE:

HAAP A CUTT ABOVE

DATE OF BIRTH:

05/23/2021

BREED:

Half-Arabian

AGE:

2 m.o.

COLOR:

Bay

SEX:

Mare

DISCIPLINE:

-

HEIGHT:

-

REGISTRY:

Half-Arabian Horse Registry

REG NUMBER:

8A 381979

SIRE:

HAAP ABOVE THE DDINN

DAM:

HAAP CUTTIN THE RUG

SIRE REG & NO.:

-

DAM REG & NO.:

-

-

-

OWNER:

Steve Hugus

ADDRESS:

323 Sheep Camp

PHONE:

307-856-0212

CITY, STATE:

Pavillion, WY

EMAIL:

shugus@wyoming.com

POSTAL CODE, COUNTRY:

82523, United States

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Results summary

VARIANT SUMMARIES:

Color: **A/a, E/e, nd1/nd2, TO/n**Speed: **Endurance Type**Temperament: **Curious**Gait: **Neg for DMRT3**

ARABIAN:

CA **n/n**, LFS **n/n**, SCID **n/n**

COAT COLOR:

Bay

Black (E) + Agouti (A): Bay (A, E) is a very common coat color in horses. Bay requires at least one black variant (E) and at least one Agouti/Bay variant (A). The Agouti restricts the black pigment to the outer points including the mane, tail, lower legs, and sometimes the tips of the ears. Bay horses have black skin under their coat, except beneath white markings. Horse with two Black (EE) and two Agouti (AA) have a 100% chance of passing Black and Agouti to any offspring. Horse with one Black (Ee) and one Agouti (Aa) have a 50% chance of passing Black or Red and a 50% chance of passing Agouti to any offspring.

Tobiano (TO) - TO/n

TO/n - One Tobiano (TO) variant detected; may result in large white markings on body, face and legs (occasionally produces 'minimal' or 'slipped' Tobiano horse with very little white only on face and lower legs (ongoing heritability study for minimal Tobiano). Horse has 50% chance of passing to any offspring.

non-Dun Primitive Markings (nd) - nd1/nd2

nd1/nd2 - Non-Dun (nd) Primitive Markings may result in dorsal striping, leg barring and "shadows" on the face and shoulder. Still in research, it is suspected in some cases that nd1 may also cause mild coat color dilution, though not as extensive as the Dun (D) variant. Horse with one copy of nd1 variant will pass nd1 to 50% of any offspring.

HEALTH VARIANTS (INCONCLUSIVE OR NOT TESTED):

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Hydrocephalus (HDC)

Equine Metabolic Syndrome Susceptibility Risk (EMS)

Equine Recurrent Uveitis Susceptibility Risk (ERUR)

Naked Foal Syndrome (NFS)

Dwarfism (D)

Immune-mediated Myositis (IMM)

"Warmblood" Fragile Foal Syndrome (FFS)

Hoof Wall Separation Disease (HWSD)

Recurrent Laryngeal Neuropathy (RLN)

Laminitis Susceptibility Risk - Equine Metabolic Syndrome related (LAM)

Equine Recurrent Uveitis Symptom Severity (ERUS)

Squamous Cell Carcinoma Susceptibility Risk (SCC)

Friesian Dwarfism (FD)

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Coat color


BASE:

Agouti (A) - A/a  ASIP **Likely Affected**
 1 variant detected

Black (E) - E/e  MC1R **Black Based**
 1 variant detected

MODIFIERS:

Grey (G) - n/n  STX17A **Negative**
 0 variants detected

Brindle (BR1) - n/n  MBTPS2BR1 **Negative**
 0 variants detected


DILUTES:

Champagne (CH) - n/n  SLC36A1 **Negative**
 0 variants detected

Silver (Z) - n/n  PMEL17 **Negative**
 0 variants detected

Cream (CR) - n/n  SLC45A2 **Negative**
 0 variants detected










Pearl (PRL) - n/n  SLC45A2 **Negative**
 0 variants detected

Dun (D) - n/n  TBX3 **Negative**
 0 variants detected

WHITES:

Tobiano (TO) - TO/n  ECA3 **Likely Affected**

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			1 variant detected
Frame/Lethal White Overo (LWO) - n/n		EDNRB	Negative 0 variants detected
Leopard Spotting Complex (LP) - n/n		TRPM1	Negative 0 variants detected
Pattern 1 (PATN1) - n/n		RFWD3	Negative 0 variants detected
Sabino1 (SB1) - n/n		KIT	Negative 0 variants detected
Splashed White (SW1) - n/n		MITF	Negative 0 variants detected
Splashed White (SW2) - n/n		PAX3	Negative 0 variants detected
Splashed White (SW3) - n/n		MITF	Negative 0 variants detected
Splashed White (SW4) - n/n		PAX3	Negative 0 variants detected
Dominant White (W) - n/n		KIT	Negative 0 variants detected


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Health variants


COLOR RELATED RISK:

Lethal White Overo (LWO) - n/n  **EDNRB** **Negative**
 0 variants detected


Congenital Stationary Night Blindness (CSNB) - n/n  **TRPM1** **Negative**
 0 variants detected

Multiple Congenital Ocular Anomalies (MCOA) - n/n  **PMEL17** **Negative**
 0 variants detected

IMMUNE SYSTEM:


Foal Immunodeficiency Syndrome (FIS) - n/n  **SLC5A3** **Negative**
 0 variants detected


Severe Combined Immunodeficiency (SCID) - n/n  **DNAPK** **Negative**
 0 variants detected

West Nile Virus Symptom Susceptibility Risk (WNVR) - n/n  **OAS1** **Negative**
 0 variants detected






Immune-mediated Myositis (IMM) **MYH1** **Not ordered**

MUSCLE DISORDERS:

Glycogen Branching Enzyme Deficiency (GBED) - n/n  **GBE1** **Negative**
 0 variants detected



Hyperkalemic Partial Paralysis (HYPP) - n/n  **SCN4A** **Negative**
 0 variants detected

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Malignant Hyperthermia (MH) - n/n		RYR1	Negative 0 variants detected
Myotonia (MYT) - n/n		CLCN4	Negative 0 variants detected
Polysaccharide Storage Myopathy type 1 (PSSM1) - n/n		GYS1	Negative 0 variants detected
NEUROLOGIC DISORDERS:			
Cerebellar Abiotrophy (CA) - n/n		MUTYH	Negative 0 variants detected
Lavender Foal Syndrome (LFS) - n/n		MYO5A	Negative 0 variants detected
Hydrocephalus (HDC)		B3GALNT2	Not ordered
Recurrent Laryngeal Neuropathy (RLN)		ECA3	Not ordered
REPRODUCTIVE DISORDERS:			
Androgen Insensitivity Syndrome (AIS) - n/n		AR	Negative 0 variants detected
Impaired Acrosomal Reaction - Subfertility Risk (IAR) - n/n, iar/n		FKBP6IAR1, FKBP6IAR2	Not Affected 1 variant detected
SKIN, HOOF AND CONNECTIVE TISSUE DISORDERS:			
Hereditary Equine Regional Dermal Asthenia (HERDA) - n/n		PPIB	Negative 0 variants detected

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Junctional Epidermolysa Bullosis type 1 (JEB1) - n/n	 LAMC2	Negative 0 variants detected
Junctional Epidermolysa Bullosis type 2 (JEB2) - n/n	 LAMA3	Negative 0 variants detected
"Warmblood" Fragile Foal Syndrome (FFS)	PLOD1	Not ordered
Hoof Wall Separation Disease (HWSD)	SERPINB11	Not ordered
Naked Foal Syndrome (NFS)	st14nfs	Not ordered
OCCULAR DISORDERS:		
Equine Recurrent Uveitis Susceptibility Risk (ERUR)	BIEC2536712WB	Not ordered
Equine Recurrent Uveitis Symptom Severity (ERUS)	BIEC2421990WB	Not ordered
Squamous Cell Carcinoma Susceptibility Risk (SCC)	DDB2	Not ordered
SKELETAL DISORDERS:		
Dwarfism (D)	ACAND1, ACAND2, ACAND3, ACAND4, ACAND5	Not ordered
Friesian Dwarfism (FD)	B4GALT7	Not ordered
Lordosis	 ECA20, ECA20,	Not detected

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ECA20, ECA20

2 variants detected

ENDOCRINE DISORDERS:

**Equine Metabolic
Syndrome
Susceptibility Risk
(EMS)**

BIEC2263524EMS

Not ordered**Laminitis
Susceptibility Risk -
Equine Metabolic
Syndrome related
(LAM)**

BIEC2263524_LAM

Not ordered

ADDITIONAL TRAITS:

Height (LCORL)


LCORL

Not ordered


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Performance and Abilities


GAIT TYPE:

Non-"Gaited" DMRT3  DMRT3 **Detected**
0 variants detected

PERFORMANCE:

Endurance  MSTN **Detected**
0 variants detected

TEMPERAMENT:

Curious  DRD4 **Detected**
2 variants detected

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General information

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.