ETALON DIAGNOSTICS

REPORT DATE: JANUARY 26, 2024
HORSE: SHES FEARSOM
OWNER: AMANDA CARNEY
HORSE ID: 020822_029
PACKAGES: MINIPANEL PLUS

Genetic profile test results

Horse and owner information

Horse
Shes Fearsom

Date of birth
02-04-2013

Breed
American Quarter Horse

Age
10 y.o.

Color
Sorrel

Sex
Mare

Discipline
Broodmare

Height
16 Hands

Registry
American Quarter Horse Association

Reg number
5537977

Sire
Fearsom

Dam
Shez Cool At Last

Sire Reg & No.
American Quarter Horse Association
5195045

Dam Reg & No.
American Quarter Horse Association
4812615

Owner
Amanda Carney

Address
4845 Millington Rd

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3022707237

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Clayton, DE

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Postal code
19938

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HORSE: SHES FEARSOM

HORSE ID: 020822_029

Results Summary

Variant summaries:

Color: **A/A, e/e, nd2/nd2**

Speed: **Sprint Type**

Temperament: **Vigilant**

Gait: **Neg for DMRT3**

AQHA: **LWO n/n, GBED n/n, HERDA n/n, HYPP n/n, MH n/n, PSSM1 n/n, MYHM n/n**

Performance and Abilities:

Vigilant
Two Vigilance variants; horse may be more vigilant than curious.

Non-"Gaited" DMRT3
No DMRT3 variants; likely non-gaited (*variants for novel "gait" abilities are currently in research).

Sprint
Two Sprint type variants; horse may accel at short distance, quick bursts of speed over endurance type activity.

Health Variants:

Horse has not tested positive for any known disease variants on this panel.

Coat color:

Red/ Chestnut/ Sorrel (base)
Red (ee) is the base coat color for this horse. Chestnut/Sorrel consists of a red or dark red/liver coat, with a mane and tail of similar or lighter color. Horse has a 100% chance of passing Red to any offspring.

Coat color

Base

Agouti (A) - A/A

ASIP — Likely Affected

Gene or region: **ASIP**

A/A - Two Dominant Agouti variants detected. Agouti (which causes "Bay" on black) restricts black pigment to the outer regions of the body, the legs, mane & tail, nose, ear tips causing the otherwise black horse to appear "Bay". Agouti is invisible on the red based coat.

Red (e) - e/e

MC1R — Red Based

Gene or region: **MC1R**

e/e - Red is the base coat color for this horse. One of the most common horse coat colors, it is seen in almost every breed. Chestnut consists of a red or brownish coat, with a mane and tail the same or lighter in color than the coat.

Modifiers

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

TBX3 — Negative

Gene or region: **TBX3**

nd2/nd2 - No non-Dun Primitive Markings variants detected. Non-Dun Primitive Markings can appear as a dorsal stripe, leg barring, shadows on the face and shoulders even in the absence of the Dun variant.

Grey (G) - n/n

STX17A — Negative

Gene or region: **STX17A**

No Grey (G) variants detected.

Tiger Eye (TE1) - n/n

SLC24A5TE1 — Negative

Gene or region: **SLC24A5TE1**

No Tiger Eye (TE1) variants detected.

Tiger Eye (TE2) - n/n

SLC24A5TE2MUT

Negative

Gene or region: **SLC24A5TE2MUT**

No Tiger Eye (TE2) variants detected.

Dilutes

Sunshine (SUN) - n/n

SLC45A

Negative

Gene or region: **SLC45A**

No Sunshine variants detected.

Champagne (CH) - n/n

SLC36A1

Negative

Gene or region: **SLC36A1**

No Champagne (CH) variants detected.

Silver (Z) - n/n

PMEL17

Negative

Gene or region: **PMEL17**

No Silver (Z) variants detected. Silver affects only black base (E) coat colors and is invisible on a red-based coat. On black or bay, It has a disproportionate diluting effect on the mane and tail, and is sometimes called, "Chocolate Flaxen".

Cream (CR) - n/n

SLC45A2

Negative

Gene or region: **SLC45A2**

No Cream (CR) variants detected.

Pearl (PRL) - n/n

SLC45A2

Negative

Gene or region: **SLC45A2**

No Pearl (prl) variants detected.

Dun (D) - n/n

TBX3

Negative

Gene or region: **TBX3**

No Dun (D) variants detected. Dun is a modifier that dilutes the base coat color often revealing Primitive Markings such as a dorsal stripe, leg barring, shadows on the face and shoulders.

Mushroom (MU) - Not Ordered

MFSD12

Not ordered

Snowdrop (SNO) - Not Ordered

SLC45A

Not ordered

Whites

Frame/Lethal White Overo (LWO) - n/n

EDNRB

Negative

Gene or region: **EDNRB**

No Frame/Lethal White Overo (LWO) variants detected.

Leopard Complex Spotting (LP) - n/n

TRPM1

Negative

Gene or region: **TRPM1**

No Leopard Complex Spotting variants detected.

Pattern 1 (PATN1) - n/n

RFWD3

Negative

Gene or region: **RFWD3**

No Pattern (PATN1/n) 1 variants detected.

Sabino1 (SB1) - n/n

KIT

Negative

Gene or region: **KIT**

No Sabino (SB1) variants detected.

Tobiano (TO) - n/n

ECA3

Negative

Gene or region: **ECA3**

No Tobiano variants detected.

Splashed White (SW1) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 1 (SW1) variants detected.

Splashed White (SW2) - n/n

PAX3

Negative

Gene or region: **PAX3**

No Splashed White 2 (SW2/n) variants detected.

Splashed White (SW3) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 3 (SW3) variants detected.

Splashed White (SW4) - n/n

PAX3

Negative

Gene or region: **PAX3**

No Splashed White 4 (SW4) variants detected.

Dominant White (W) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White (1-21) variants detected.

Dominant White 22 (W22) - Not Ordered

KIT

Not ordered

Dominant White 30/Aghilasse (W30) - Not Ordered	KIT	Not ordered
Dominant White 31/Merada (W31) - Not Ordered	KIT	Not ordered
Dominant White 32/Scandalous (W32) - Not Ordered	KIT	Not ordered
Dominant White 34/Flamboyant (W34) - Not Ordered	KIT	Not ordered
Dominant White 35/Holiday (W35) - Not Ordered	KIT	Not ordered
Splashed White 5 (SW5) - Not Ordered	MITF	Not ordered
Splashed White 7 (SW7) - Not Ordered	MITF	Not ordered
Splashed White 8 (SW8) - Not Tested	MITF	Not ordered
Dominant White 33 (W33) - Not Ordered	KIT	Not ordered

Coat Type

Curly Coat 1 (CU1) - n/n	KRT25	Negative

Gene or region: **KRT25**

No known Curly Coat (CU-KRT25) variants detected.

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Curly Coat 2 (CU2) - n/n	SP6		Negative

Gene or region: **SP6**

No known Curly Coat (CU-SP6) variants detected.

Health Variants

Color Related Risk

Lethal White Overo (LWO) - n/n — EDNRB — Negative

Gene or region: **EDNRB**

n/n - No Lethal White Overo (LWO) variants detected.

Congenital Stationary Night Blindness (CSNB) - n/n — TRPM1 — Negative

Gene or region: **TRPM1**

n/n - No Leopard Complex Spotting (LP) variants detected, which is related to the presence of Congenital Stationary Night Blindness (CSNB) if horse is LP/LP. Horses with one copy of the Leopard Complex Spotting (LP) variant are not currently known to suffer any ill effects as a result. Horses with Congenital Stationary Night Blindness (CSNB) which may experience the inability to see in low to no-light conditions.

Multiple Congenital Ocular Anomalies (MCOA) - n/n — PMEL17 — Negative

Gene or region: **PMEL17**

n/n - No Silver variants detected which is related to the presence of Multiple Congenital Ocular Anomalies (MCOA).

Immune System

Foal Immunodeficiency Syndrome (FIS) - n/n — SLC5A3 — Negative

Gene or region: **SLC5A3**

No Foal Immunodeficiency Syndrome variants detected.

Severe Combined Immunodeficiency (SCID) - n/n — DNAPK — Negative

Gene or region: **DNAPK**

No Severe Combined Immunodeficiency (SCID) variants detected.

Myosin-Heavy Chain Myopathy (MYHM) - n/n	MYH1		Negative

Gene or region: **MYH1**

No Myosin-Heavy Chain Myopathy variants detected. Normal susceptibility for IMM or nonexertional rhabdomyolysis.

West Nile Virus Symptom Susceptibility Risk (WNVR) - n/n	OAS1		Negative

Gene or region: **OAS1**

No West Nile Virus Symptom Susceptibility Risk (WNVR) variants detected. Normal susceptibility to West Nile Virus symptoms. (*NOT a test for West Nile Virus).

Equine Herpes Myeloencephalopathy Risk (EHMR) - after contracting Equine Herpes Virus type 1 (EHV1)	TSPAN9		Not ordered

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Muscle Disorders

Glycogen Branching Enzyme Deficiency (GBED) - n/n	GBE1		Negative

Gene or region: **GBE1**

No Glycogen Branching Enzyme Deficiency (GBED) variants detected.

Hyperkalemic Partial Paralysis (HYPP) - n/n	SCN4A		Negative

Gene or region: **SCN4A**

No Hyperkalemic Partial Paralysis (HYPP) variants detected.

Malignant Hyperthermia (MH) - n/n	RYR1		Negative

Gene or region: **RYR1**

No Malignant Hyperthermia (MH) variants detected.

Myotonia (MYT) - n/n	CLCN4		Negative

Gene or region: **CLCN4**

No Myotonia (MYT) variants detected.

Polysaccharide Storage Myopathy type 1 (PSSM1) - n/n	GYS1		Negative

Gene or region: **GYS1**

No Polysaccharide Storage Myopathy type 1 (PSSM1) variants detected.

Neurologic Disorders

Cerebellar Abiotrophy (CA) - n/n	MUTYH		Negative

Gene or region: **MUTYH**

No Cerebellar Abiotrophy (CA) variants detected.

Lavender Foal Syndrome (LFS) - n/n	MYO5A		Negative

Gene or region: **MYO5A**

No Lavender Foal Syndrome (LFS) variants detected.

Hydrocephalus (HDC) - n/n	B3GALNT2		Negative

Gene or region: **B3GALNT2**

No Hydrocephalus (HDC) variants detected.

Recurrent Laryngeal Neuropathy (RLN) - n/n	ECA3		Average Risk

Gene or region: **ECA3**

No Recurrent Laryngeal Neuropathy Risk (RLN) variants detected.

Occipitoatlantoaxial Malformation Type 1 (OAAM1)	HOX		Not ordered

Reproductive Disorders

Androgen Insensitivity Syndrome (AIS) - n/n	AR		Negative

Gene or region: **AR**

No pattern of Androgen Insensitivity Syndrome (AIS) variants detected.

Impaired Acrosomal Reaction - Subfertility Risk (IAR) - n/n, iar/iar	FKBP6...		Not Affected

Gene or region: **FKBP6, FKBP6**

No pattern for Impaired Acrosomal Reaction (IAR) - Subfertility Risk variants detected.

Skin, Hoof and Connective Tissue Disorders

Hereditary Equine Regional Dermal Asthenia (HERDA) - n/n	PPIB		Negative

Gene or region: **PPIB**

No Hereditary Equine Regional Dermal Asthenia (HERDA) variants detected.

Junctional Epidermolysis Bullosa type 1 (JEB1) - n/n	LAMC2		Negative

Gene or region: **LAMC2**

No Junctional Epidermolysis Bullosa type 1 (JEB1) variants detected.

Junctional Epidermolysis Bullosa type 2 (JEB2) - n/n	LAMA3		Negative

Gene or region: **LAMA3**

No Junctional Epidermolysis Bullosa type 2 (JEB2) variants detected.

"Warmblood" Fragile Foal Syndrome (FFS) - n/n	PLOD1		Negative

Gene or region: **PLOD1**

No Fragile Foal Syndrome (FFS) variants detected.

Hoof Wall Separation Disease (HWSD) - n/n	SERPINB11		Negative

Gene or region: **SERPINB11**

No Hoof Wall Separation Disease (HWSD) variants detected.

Naked Foal Syndrome (NFS)	st14		Not ordered

Incontinentia Pigmenti (IP)/Brindle IP - n/n	IKBKG		Negative

Gene or region: **IKBKG**

No Incontinentia Pigmenti (IP)/Brindle IP variants detected.

Chronic Idiopathic Anhidrosis Risk (CIAR)	KCNE4		Not ordered

Occular Disorders

Equine Recurrent Uveitis Susceptibility Risk (ERUR) - n/n	BIEC2536712WB		Average Risk

Gene or region: **BIEC2536712WB**

No Equine Recurrent Uveitis Susceptibility Risk (ERUR) variant detected. Horse has normal risk of ERU.

Equine Recurrent Uveitis Symptom Severity (ERUS) - n/n	BIEC2421990WB		Average Risk

Gene or region: **BIEC2421990WB**

No Equine Recurrent Uveitis Symptom Severity (ERUS) variants detected. Horse has normal susceptibility for ERU symptom severity if contracted.

Squamous Cell Carcinoma Susceptibility Risk (SCC) - n/n	DDB2		Average Risk

Gene or region: **DDB2**

No Squamous Cell Carcinoma Susceptibility Risk (SCC) variants detected.

Skeletal Disorders

Dwarfism (D) - n/n	ACAND1...		Negative

Gene or region: **ACAND1, ACAND2, ACAND3, ACAND4, ACAND5**

No Dwarfism (D) variants detected.

Friesian Dwarfism (FD) - n/n	B4GALT7		Negative

Gene or region: **B4GALT7**

No Friesian Dwarfism (FD) variants detected.

Kissing Spines Susceptibility (KSS)	ECA25		Not ordered

Lordosis	ECA20...		Not detected

Gene or region: **ECA20, ECA20, ECA20, ECA20**

Horses with one copy in each of the four Lordosis regions are not currently known to suffer any ill effects as a result. Horses with two copies in each of the four Lordosis regions exhibit signs of swayback. Currently studies are only proven in the N. Am. Saddlebred breed.

Endocrine Disorders

Equine Metabolic Syndrome Susceptibility Risk (EMS) - n/n	BIEC2263524EMS		Average Risk

Gene or region: **BIEC2263524EMS**

No Equine Metabolic Syndrome Susceptibility Risk (EMS) variants detected. Horse has average risk for Equine Metabolic Syndrome.

Laminitis Susceptibility Risk - Equine Metabolic Syndrome related (LAM) - n/n	BIEC2263524_LAM	Average Risk

Gene or region: **BIEC2263524_LAM**

No Laminitis Susceptibility Risk (LAM) variants detected. Horse has average risk for EMS-related Laminitis.

Blood and Vascular Disorders

Glanzmann Thrombasthenia (GT)	ITGA2BG...	Not ordered

Height

Height (H1) - n/n	LCORL	Negative

Gene or region: **LCORL**

No Height (LCORL) variants detected. Likely no added height affect.

Height (H2)	HMGA2	Not ordered

Performance and Abilities

Gait Type

Non-"Gaited" DMRT3	DMRT3	Negative

Gene or region: **DMRT3**

No DMRT3 variants; likely non-gaited (*variants for novel "gait" abilities are currently in research).

Performance

Sprint	MSTN	Likely Affected

Gene or region: **MSTN**

Two Sprint type variants; horse may accel at short distance, quick bursts of speed over endurance type activity.

Temperament

Vigilant	DRD4	Likely Affected

Gene or region: **DRD4**

Two Vigilance variants; horse may be more vigilant than curious.