ETALON DIAGNOSTICS

REPORT DATE: JULY 26, 2022
HORSE: FEVER'S CAKE BOSS
OWNER: BARBARA DIBERNARDO

Genetic profile test results

HORSE ID: 031522_026
PACKAGES: ETALON DNA MINIPANEL

Horse and owner information

Horse
Fever's Cake Boss

Date of birth
05-09-2021

Breed
Gypsy Vanner

Age
1 y.o.

Color
Silver Black

Sex
Stallion

Discipline
All Around, Breeding

Height
12 Hands

Registry
Gypsy Vanner Horse Society

Reg number
GV08583

Sire
Boss Jr.

Dam
The Frosted Filly

Sire Reg & No.
Gypsy Vanner Horse Society
GV03411

Dam Reg & No.
Gypsy Vanner Horse Society
GV04468P

Owner
BARBARA DIBERNARDO

Address
29330 Calle de Caballos

Phone
9517752534

City, State
Sun City, CA

Email
leoetta@gmail.com

Postal code
92585

Results Summary

Variant summaries:

Color: **a/a, E/e, nd2/nd2, Z/n, TO/n**

Health: **WNVR/n**

Speed: **Endurance Type**

Temperament: **Curious**

Gait: **Neg for DMRT3**

Polysaccharide Storage Myopathy (type 1) (PSSM1): **PSSM1 n/n**

Performance and Abilities:

Curious
Two Curiosity variants; horse may be more curious than vigilant.

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

Endurance
Endurance type myostatin; horse may accel at longer distance travel versus short distance sprint type activity.

Health Variants:

West Nile Virus Risk Symptom Susceptibility (WNVR) - WNVR/n
WNVR/n - One West Nile Virus Symptom Susceptibility Risk (WNVR) variant detected. Horse may have moderate severity of West Nile Virus symptoms if contracted. Horse has a 50% chance of passing on to any offspring. (*NOT a test for the presence of WNV) Read more about WNVR by clicking the name of the variant above.

Multiple Congenital Ocular Anomalies (MCOA) - Z/n
Z/n - One Silver (Z) variant detected, resulting in "Possibly Affected" status for Multiple Congenital Ocular Anomalies (MCOA) syndrome. Caution is recommended when breeding to avoid another Silver carrier, and thus a 25% chance of "Likely Affected" offspring. Read more about MCOA by clicking the name of the variant above.

Coat color:

Black (base)

Black (E) is the base coat color for this horse and is a relatively uncommon coat color on its own (usually it is found in combination with other colors or modifiers such as in Bay horses). A visible difference between a true black (Ee or EE), a dark chestnut (ee) or a bay (Aa or AA + E) can sometimes be seen in the fine hairs around the eyes and muzzle. On a true black these hairs typically remain black even if the horse is sun-bleached, while on other colors they will be lighter. Horse with one copy of the black variant (Ee) is "heterozygous black" and has a 50% chance of passing on black or red 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.

Silver (Z) - Z/n

Z/n - One Silver (Z) variant detected. Silver affects only black hair, having a disproportionate effect on the mane and tail, and is sometimes called chocolate flaxen because of the blonde chocolate appearance it can give. Horse has 50% of passing to any offspring.

Coat color

Base

Agouti (A) - a/a	ASIP		Negative

Gene or region: **ASIP**

a/a - No Dominant Agouti variants detected. Agouti (A) 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.

Black (E) - E/e	MC1R		Black Based

Gene or region: **MC1R**

E/e - One Black variant and one Red variant detected.

Modifiers

Grey (G) - n/n	STX17A		Negative

Gene or region: **STX17A**

No Grey (G) variants detected.

Brindle (BR1) - n/n	MBTPS2BR1		Negative

Gene or region: **MBTPS2BR1**

n/n - No Brindle (BR1) variants detected. Horse with Brindle (BR1) may display overall haircoat showing streaks of darker and lighter hair, similar to the brindle coat color in other species.

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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.

Dilutes

Sunshine (SUN) - not tested	SLC45ASUN		Not ordered

Silver (Z) - Z/n	PMEL17		Possibly Affected

Gene or region: **PMEL17**

Z/n - One Silver variant 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". Increased risk for ocular disease.

Champagne (CH) - n/n	SLC36A1		Negative

Gene or region: **SLC36A1**

No Champagne (CH) variants detected.

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.

Whites

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

Gene or region: **ECA3**

TO/n - One Tobiano variant detected; likely white markings. This horse may pass Tobiano to 50% of any offspring.

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.

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.

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. Read more about LWO by clicking the name of the variant above.

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. Read more about CSNB by clicking the name of the variant above.

Multiple Congenital Ocular Anomalies (MCOA) - Z/n	PMEL17		Possibly Affected

Gene or region: **PMEL17**

Z/n - One Silver (Z) variant detected, resulting in "Possibly Affected" status for Multiple Congenital Ocular Anomalies (MCOA) syndrome. Caution is recommended when breeding to avoid another Silver carrier, and thus a 25% chance of "Likely Affected" offspring. Read more about MCOA by clicking the name of the variant above.

Immune System

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

Gene or region: **SLC5A3**

No Foal Immunodeficiency Syndrome (FIS) variants detected. Read more about FIS by clicking the name of the variant above.

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

Gene or region: **DNAPK**

No Severe Combined Immunodeficiency (SCID) variants detected. Read more about SCID by clicking the name of the variant above.

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

Gene or region: **OAS1**

WNVR/n - One West Nile Virus Symptom Susceptibility Risk (WNVR) variant detected. Horse may have moderate severity of West Nile Virus symptoms if contracted. Horse has a 50% chance of passing on to any offspring. (*NOT a test for the presence of WNV) Read more about WNVR by clicking the name of the variant above.

Immune-mediated Myositis (IMM)	MYH1	Not ordered

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. Read more about GBED by clicking the name of the variant above.

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

Gene or region: **SCN4A**

No Hyperkalemic Partial Paralysis (HYPP) variants detected. Read more about HYPP by clicking the name of the variant above.

Malignant Hyperthermia (MH) - n/n	RYR1		Negative

Gene or region: **RYR1**

No Malignant Hyperthermia (MH) variants detected. Read more about MH by clicking the name of the variant above.

Myotonia (MYT) - n/n	CLCN4		Negative

Gene or region: **CLCN4**

No Myotonia (MYT) variants detected. Read more about MYT by clicking the name of the variant above.

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

Gene or region: **GYS1**

No Polysaccharide Storage Myopathy type 1 (PSSM1) variants detected. Read more about PSSM1 by clicking the name of the variant above.

Neurologic Disorders

Cerebellar Abiotrophy (CA) - n/n	MUTYH		Negative

Gene or region: **MUTYH**

No Cerebellar Abiotrophy (CA) variants detected. Read more about CA by clicking the name of the variant above.

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

Gene or region: **MYO5A**

No Lavender Foal Syndrome (LFS) variants detected. Read more about LFS by clicking the name of the variant above.

Hydrocephalus (HDC)	B3GALNT2	Not ordered

Recurrent Laryngeal Neuropathy (RLN)	ECA3	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. Read more about AIS by clicking the name of the variant above.

Impaired Acrosomal Reaction - Subfertility Risk (IAR) - n/n, iar/iar	FKBP6IAR1...		Not Affected

Gene or region: **FKBP6IAR1, FKBP6IAR2**

No pattern for Impaired Acrosomal Reaction (IAR) - Subfertility Risk variants detected. Read more about IAR by clicking the name of the variant above.

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. Read more about HERDA by clicking the name of the variant above.

Junctional Epidermolysa Bullosis type 1 (JEB1) - n/n	LAMC2	Negative

Gene or region: **LAMC2**

No Junctional Epidermolysa Bullosis type 1 (JEB1) variants detected. Read more about JEB1 by clicking the name of the variant above.

Junctional Epidermolysa Bullosis type 2 (JEB2) - n/n	LAMA3	Negative

Gene or region: **LAMA3**

No Junctional Epidermolysa Bullosis type 2 (JEB2) variants detected. Read more about JEB2 by clicking the name of the variant above.

"Warmblood" Fragile Foal Syndrome (FFS)	PLOD1	Not ordered
Hoof Wall Separation Disease (HWSD)	SERPINB11	Not ordered
Naked Foal Syndrome (NFS)	st14nfs	Not ordered
Chronic Idiopathic Anhidrosis Risk (CIAR)	KCNE4	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...	Not ordered
Friesian Dwarfism (FD)	B4GALT7Dfriesian	Not ordered
Kissing Spines Susceptibility (KSS)	ECA25	Not ordered
Lordosis	ECA20... 	Not detected

Endocrine Disorders

Equine Metabolic Syndrome Susceptibility Risk (EMS)	BIEC2263524EMS	Not ordered
Laminitis Susceptibility Risk - Equine Metabolic Syndrome related (LAM)	BIEC2263524_LAM	Not ordered

Blood and Vascular Disorders

Glanzmann Thrombasthenia (GT)	ITGA2BG...	Not ordered

Health

Glanzmann Thrombasthenia (GT)	ITGA2BG...	Not ordered

Height

Height (H1)	LCORL	Not ordered
Height (H2)	HMGA2	Not ordered

Performance and Abilities

Gait Type

Non-"Gaited" DMRT3	DMRT3		Detected

Gene or region: **DMRT3**

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

Performance

Endurance	MSTN		Likely Affected

Gene or region: **MSTN**

Endurance type myostatin; horse may accel at longer distance travel versus short distance sprint type activity.

Temperament

Curious	DRD4		Detected

Gene or region: **DRD4**

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