ETALON DIAGNOSTICS

REPORT DATE: FEBRUARY 14, 2025

HORSE: GUNNER DIAMOND AGAIN

OWNER: RICARDO GONZÁLEZ

Genetic profile test results

HORSE ID: 020325_032

PACKAGES: PRO PACKAGE

Horse and owner information

Horse
Gunner diamond again

Date of birth
08-29-2018

Breed
Quarter Horse

Age
6 y.o.

Color
Black

Sex
Stallion

Discipline
Reining

Height
14 Hands

Registry

Reg number

Sire
-

Dam
-

Sire Reg & No.

Dam Reg & No.

Owner
Ricardo González

Address
-

Phone
-

City, State
-

Email
longhornpumping@aol.com

Postal code
-

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Results Summary

Variant summaries:

Color: **a/a, E/E, nd1/nd2, SW1/n, SW2/n, CR/n**

Health: **ERUR/n, CIAR/n**

Speed: **Sprint Type**

Temperament: **Curious/Vigilant**

Gait: **Neg for DMRT3**

Performance and Abilities:

Curious & Vigilant
One Curiosity and one Vigilance variant; horse is likely both curious and vigilant (*ongoing study).

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

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

Health Variants:

Equine Recurrent Uveitis Susceptibility Risk (ERUR) - ERUR/n
ERUR/n - One Equine Recurrent Uveitis Susceptibility Risk (ERUR) variant detected. Horse has a moderate susceptibility for ERU (5 times more likely) over a horse without ERUR variants. Horse has a 50% chance of passing to offspring.

Chronic Idiopathic Anhidrosis Risk (CIAR) - CIAR/n
CIAR/n -One Chronic Idiopathic Anhidrosis Risk (CIAR) variant detected. Horse has moderate risk of developing the chronic form of anhidrosis (mostly represented by mild and sporadic cases of anhidrosis), and has 50% chance of passing to any offspring.

Coat color:

Smoky Black
Black (E) + Cream (CR/n): When a black horse has one Cream (CR) variant, its color may appear black to a dark brown. Thus, a smoky black may be visibly indistinguishable from a true black, dark Bay or dark Chestnut.

Black Homozygous (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. For a horse to be "homozygous black", it must have TWO copies of the Black variant (EE) and horse has 100% chance of passing Black to any offspring.

Splashed White 2 (SW2) - SW2/n
SW2/n - One Splashed White 2 (SW2) variant detected; may result in White markings on face/head, legs and body with possible blue eye(s) and risk of deafness in one or both ears. Horse has 50% of passing to any offspring.

Splashed White 1 (SW1) - SW1/n
SW1/n - One Splashed White 1 (SW1) variant detected.; may result in White markings on the face, legs and body with possible blue eye(s). Horse has 50% of passing to any offspring.

Blue Eyes Likely
Blue eyes often accompany specific depigmenting variants such as Splash, Overo and occasionally Tobiano and Dominant White. Double diluted horses (carrying two copies of Cream, Pearl, Sno, Sun, etc.) may also have Blue or Green eyes.

Cream (CR) - CR/n
CR/n - One Cream (CR) variant detected. Cream is a partial dominant and may dilute base coat color (Buckskin, Palomino, Smoky Black, etc). Horse has a 50% chance of passing to any offspring.

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Coat color

Base

Agouti (A) - a/a — ASIP — Negative

Gene or region: **ASIP**

a/a - No Agouti (A) 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 - Two Black (E) variants detected and no Red.

Modifiers

non-Dun Primitive Markings (nd) - nd1/nd2 — TBX3 — Possibly Affected

Gene or region: **TBX3**

nd1/nd2 - One non-Dun Primitive Markings (ND) variant 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.

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.

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Brindle (BR1) - n/n

MBTPS2BR1

Negative

Gene or region: **MBTPS2BR1**

No Brindle (BR1) variants detected.

Grey (G) - n/n

STX17A

Negative

Gene or region: **STX17A**

No Grey (G) variants detected.

Dilutes

Dun (D) - n/n

TBX3

Negative

Gene or region: **TBX3**

No Dun (D) variants detected.

Cream (CR) - CR/n

SLC45A2



Likely Affected

Gene or region: **SLC45A2**

CR/n - One Cream (CR) variant may dilute the base coat color to appear lighter resulting in a Palomino, Buckskin or other lightened coat color.

Champagne (CH) - n/n

SLC36A1

Negative

Gene or region: **SLC36A1**

No Champagne (CH) variants detected.

Pearl (PRL) - n/n

SLC45A2

Negative

Gene or region: **SLC45A2**

No Pearl (prl) variants detected.

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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".

Snowdrop (SNO) - n/n

SLC45A

Negative

Gene or region: **SLC45A**

No Snowdrop (SNO) variants detected. One Snowdrop variant detected; invisible in the absence of Cream, Pearl, Sunshine, or another Snowdrop variant. One Snowdrop variant when combined with one Cream variant, one Pearl, one Sunshine, or another Snowdrop variant may appear as a double dilute.

Sunshine (SUN) - n/n

SLC45A

Negative

Gene or region: **SLC45A**

No Sunshine (SUN) variants detected.

Mushroom (MU) - n/n

MFSD12

Negative

Gene or region: **MFSD12**

No Mushroom (MU) variants detected.

Whites

Dominant White 35 (W35) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White 35/Holiday variants detected. Possibly white markings on legs, body and face.

Eden White 2 (EDXW2) "Dream" - n/n

HSP5

Negative

Gene or region: **HSP5**

No Eden White 2 "Dream" variants detected.

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Dominant White 32 (W32) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White 32/Scandalous variants detected.

Eden White 3 (EDXW3) "Irish" - n/n

HSP5

Negative

Gene or region: **HSP5**

No Eden White 3 "Irish" variants detected.

Splashed White (SW1) - SW1/n

MITF

Likely Affected

Gene or region: **MITF**

SW1/n - One Splashed White 1 variant detected. May result in white markings on the face, legs, body and possibly blue eye(s).

Splashed White (SW2) - SW2/n

PAX3

Likely Affected

Gene or region: **PAX3**

SW2/n - One Splashed White 2 variant detected. May result in white markings on the face, legs, body and possibly blue eye(s). Splashed White 2 horses may also experience hearing impairment depending upon the location of the white markings*. (*currently under clinical investigation).

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.

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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 (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.

Splashed White 5 (SW5) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 5 variants detected.

Dominant Whites (W) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White (1-21) variants detected.

Eden White 1 (EDXW1) "Cruz" - n/n

HSP5

Negative

Gene or region: **HSP5**

No Eden White 1 "Cruz" variants detected.

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Dominant White 33 (W33) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White 33 variants detected.

Dominant White 30 (W30) - n/n

KIT

Negative

Gene or region: **KIT**

Dominant White 30 (W30): No Dominant White 30/Aghilasse (W30) variants detected.

Dominant White 31 (W31) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White 31/Merada variants detected.

Splashed White 6 (SW6) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 6 variants detected.

Splashed White 7 (SW7) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 7 variants detected.

Dominant White 34 (W34) - n/n

KIT

Negative

Gene or region: **KIT**

No Dominant White 34/Flamboyant variants detected.

Splashed White 9/Giltor (SW9) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 9/Giltor variants detected.

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Splashed White 10/Giltor (SW10) - n/n

PAX3

Negative

Gene or region: **PAX3**

No Splashed White 10/Giltor variants detected.

Splashed White 8 (SW8) - n/n

MITF

Negative

Gene or region: **MITF**

No Splashed White 8 variants detected.

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

EDNRB

Negative

Gene or region: **EDNRB**

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

Coat Type

Curly Coat 1 (CU1) - n/n

KRT25

Negative

Gene or region: **KRT25**

No known Curly Coat 1 (CU1) variants detected.

Curly Coat 2 (CU2) - n/n

SP6

Negative

Gene or region: **SP6**

No known Curly Coat (CU2) variants detected.

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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**

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.

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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

Average Risk*

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) - Equine Herpes Virus type 1 (EHV1) related - n/n

TSPAN9

Average Risk*

Gene or region: **TSPAN9**

No Equine Herpes Myeloencephalopathy Risk (EHMR) variants detected. Horse has an average risk of developing the neurological form (Equine Herpes Myeloencephalopathy, EHM) if infected by Equine Herpes Virus type 1 (EHV-1).

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.

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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.

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Recurrent Laryngeal Neuropathy Risk (RLNR) - n/n	ECA3		Average Risk*

Gene or region: **ECA3**

No Recurrent Laryngeal Neuropathy Risk (RLNR) variants detected.

Occipitoatlantoaxial Malformation Type 1 (OAAM1) - n/n	HOX		Negative

Gene or region: **HOX**

No Occipitoatlantoaxial Malformation Type 1 variants detected.

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) - iar/n,iar/n	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.

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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) - n/n	st14		Negative

Gene or region: **st14**

No Naked Foal Syndrome (NFS) variants detected.

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

Gene or region: **IKBKG**

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

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Chronic Idiopathic Anhidrosis Risk (CIAR) - CIAR/n	KCNE4	Moderate Risk

Gene or region: **KCNE4**

CIAR/n -One Chronic Idiopathic Anhidrosis Risk (CIAR) variant detected. Horse has moderate risk of developing the chronic form of anhidrosis (mostly represented by mild and sporadic cases of anhidrosis), and has 50% chance of passing to any offspring.

Occular Disorders

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

Gene or region: **BIEC2536712WB**

ERUR/n - One Equine Recurrent Uveitis Susceptibility Risk (ERUR) variant detected. Horse has a moderate susceptibility for ERU (5 times more likely) over a horse without ERUR variants. Horse has a 50% chance of passing to offspring.

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.

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).

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Congenital Stationary Night Blindness (CSNB) - n/n

TRPM1 — Negative

Gene or region: **TRPM1**

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.

Congenital Stationary Night Blindness 2 (CSNB2) - n/n

GRM6 — Negative

Gene or region: **GRM6**

No Congenital Stationary Night Blindness 2 (CSNB2) variants detected.

Skeletal Disorders

Dwarfism (D) - n/n

ACAND1... — Negative

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

No Dwarfism (DWF) variants detected.

Friesian Dwarfism (FDWF) - n/n

B4GALT7 — Negative

Gene or region: **B4GALT7**

No Friesian Dwarfism (FDWF) variants detected.

Kissing Spines Risk (KSSR) - n/n

ECA25 — Decreased Risk

Gene or region: **ECA25**

No Kissing Spines Susceptibility (KSS) variants detected. Horse has decreased risk for developing kissing spines, falling into the category of grade of 0 (evenly spaced) to 1 (narrowing of the interspinal space)

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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) - n/n

ITGA2BG...

Negative

Gene or region: **ITGA2BG, ITGA2BG**

No Glanzmann Thrombasthenia (GT) variants detected.

Height

Height (H1) - n/n

LCORL

Negative

Gene or region: **LCORL**

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

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Height (H2) - n/n

HMGA2

Negative

Gene or region: **HMGA2**

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

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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**

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

Temperament

Curious & Vigilant	DRD4	Likely Affected

Gene or region: **DRD4**

One Curiosity and one Vigilance variant; horse is likely both curious and vigilant (*ongoing study).