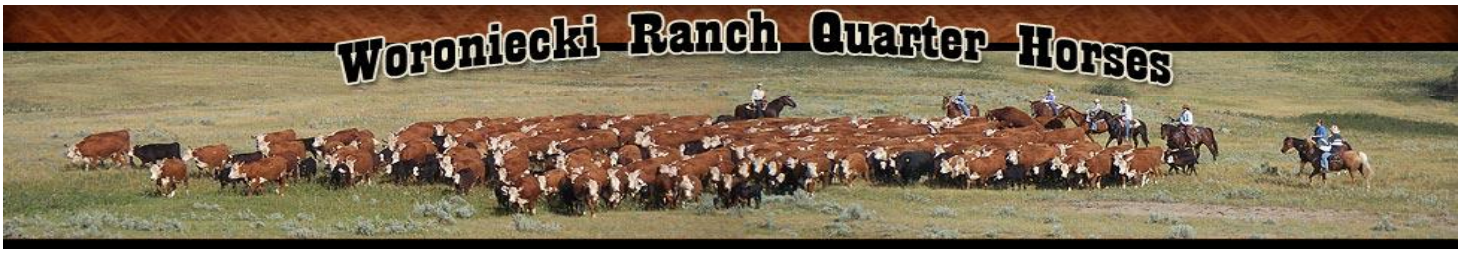


Jodie & Warren Woroniecki
7075 28th St.
Hebron, ND 58638
701-878-4088

Check us out online at----------
www.WoronieckiRanchQuarterHorses.com
Or email, call or stop by the ranch
woronieckiranch@westriv.com

7 Identified Diseases Information as it Pertains to Woroniecki Ranch Quarter Horses

At Woroniecki Ranch Quarter Horses we take an ethical response to any genetic diseases as they are identified. AQHA previously had a 5-panel test requirement for breeding stallions since 2015. Two more diseases have been identified and AQHA has now required a 6-panel test. A 7th disease has been identified and could soon be added to the panel. We, as well as many other breeders, have decided to test for that (EJSCA). We also know that there could be many more diseases yet to be discovered. We order our tests through the VGL laboratory of the School of Veterinary Medicine at the University of California, Davis and provide those results to AQHA and buyers. VGL is internationally recognized as a pioneer and expert in DNA-based animal testing. The effects of these equine diseases are wide-ranging, from mild and manageable to severe and terminal. We have compiled a short description of each disorder tested**. In many instances we only test the necessary specific test based upon the parents' test results. If both parents are N/N on all or some diseases then the offspring is also N/N on those diseases by default. Please see ALL PAGES of this document link.**

Glycogen Branching Enzyme Deficiency (GBED) is a fatal genetic disorder that results from the inability to correctly store glycogen in several organs of the body. Most die within couple weeks of age, but none have been known to survive more than 2 months of age. These foals are often still born. **GBED is a recessive trait and only horses that inherit both recessive genes from each parent (G/G) will be afflicted. Carriers (N/G) and non-carriers (N/N) will have no problems in their lives as they will NOT be afflicted at all, and they will be able to perform all performance activities. If you decide to breed a carrier (N/G) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

Hereditary Equine Regional Dermal Asthenia (HERDA) is an inherited skin condition primarily found in Quarter Horses that is characterized by hyperextensible skin, scarring, and severe lesions along the back of affected horses. **HERDA is a recessive trait and only horses that inherit both recessive genes from each parent (HRD/HRD) will be afflicted. Carriers (N/HRD) and non-carries (N/N) will have no problems in their lives as they will NOT be afflicted at all, and they will be able to perform all performance activities. If you decide to breed a carrier (N/HRD) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

Hyperkalemic Periodic Paralysis (HYPP) is an inherited disease of the muscles primarily found in Quarter Horses which is characterized by sporadic episodes of muscle tremors or paralysis. **HYPP is a dominant trait and carriers (N/H) will be afflicted but can be managed with careful nutritional care. It is highly recommended NOT to breed a carrier.**

Formerly known as IMM, Myosin-heavy chain myopathy (MYHM) is a muscle disease in Quarter Horses and related breeds that results in two distinct clinical disease presentations. The first presentation is called immune-mediated myositis or IMM and it is characterized by episodes of severe muscle atrophy following an autoimmune event. The second is severe muscle pain and damage termed non-exertional rhabdomyolysis or "tying-up" that is not associated with exercise and may or may not have muscle atrophy. **MYHM is a codominant trait and carriers (N/My) may develop a myosin-heavy chain myopathy. Horses with (My/My) may develop a more severe form of a myosin-heavy chain myopathy. It is highly recommended NOT to breed a carrier.** After consulting with veterinarians and experts in breeding who deem this disorder to not be as severe or common as HYPP or PSSM1, we have decided at this time to continue to breed certain individuals identified at WRQH. We will not breed carriers to carriers to minimize the potential. We have several aged horses that carry MYHM and have had no problems with them. If things prove differently, we will adjust at that time.

Malignant Hyperthermia (MH) is an inherited disease in which affected horses can be triggered by halogenated anesthetics, succinylcholine, stress, or excitement, which can induce a hyper-metabolic state characterized by symptoms including muscle contracture, elevated temperature, and an irregular heart rhythm. **MH is a dominant trait, and carriers (N/MH) will be afflicted if undergoing surgery or extreme stress. It is highly recommended NOT to breed a carrier.**

Polysaccharide Storage Myopathy (PSSM1) is a glycogen storage disease that results in the accumulation of abnormal complex sugars in muscle cells, which can lead to muscle pain, weakness, and reluctance to move. **PSSM1 is a dominant trait but carriers (N/PSSM1) can be managed with proper diet and exercise. It is highly recommended NOT to breed a carrier.**

Equine Juvenile Spinocerebellar Ataxia (EJSCA) is an inherited neurologic disease that causes ataxia**.** Affected foals develop ataxia, or incoordination, between 1 and 4 weeks of age. The disorder progresses within a few days until affected foals are unable to stand without assistance. **EJSCA is a recessive trait and only horses that inherit both recessive genes from each parent (JSA/JSA) will be afflicted. Carriers (N/JSA) and non-carries (N/N) will have no problems in their lives as they will NOT be afflicted at all and they will be able to perform all performance activities. If deciding to breed a carrier (N/JSA) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

Top Gun Merlin JW (AQHA)
2025 Bay Roan Stallion

GBED Status	N/N
HERDA Status	N/N
HYPP Status	N/N
MYHM Status	N/N
MH Status	N/N
PSSM1 Status	N/N
EJSCA Status	N/N

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

MYOSIN-HEAVY CHAIN MYOPATHY (MYHM) TEST REPORT

Provided Information:

Name: **TOP GUN MERLIN JW**

Registration: **AQHA PENDING**

Case: **NQ130470**
Date Received: 21-Oct-2025
Report Issue Date: 24-Oct-2025
Report ID: 9561-5500-2013-9171

Verify report at vgl.ucdavis.edu/verify

DOB: **06/09/2025** *Sex:* **Stallion** *Breed:* **Quarter Horse**

Sire: TOP GUN WHISKEY
Reg: 5493617
Microchip:

Dam: TWO ID SWEET SHINE
Reg: 5858505
Microchip:

RESULT

Myosin-Heavy Chain Myopathy (MYHM)	**N/N**

INTERPRETATION

Normal. No copies of the MYHM allele detected. Horse does not have increased susceptibility for immune mediated myositis or nonexertional rhabdomyolysis caused by the MYHM allele.

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

VETERINARY GENETICS LABORATORY
SCHOOL OF VETERINARY MEDICINE
ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8744

TELEPHONE: (530) 752-2211
FAX: (530) 752-3556

AQHA GENETIC DISEASE PANEL TEST RESULTS

AMERICAN QUARTER HORSE ASSOCIATION
P.O. BOX 200
AMARILLO, TX 79168-0001

Case: **QHA192966**
Date Received: 11-May-2015
Print Date: 15-May-2015
Report ID: 3204-8302-2597-1037
Verify report at www.vgl.ucdavis.edu/myvgl/verify.html

Horse: **TOP GUN WHISKEY** *Reg:* **5493617**
YOB: **2012** *Sex:* **Stallion** *Breed:* **Quarter Horse** *Alt. ID:* **6435445**

Sire: PADDYS IRISH WHISKEY *Reg:* 2983308
Dam: COWGUN *Reg:* 4930711

GBED	**N/N**	N/N - Normal - Does not possess the disease-causing GBED gene
HERDA	**N/N**	N/N - Normal - horse does not have the HERDA gene
HYPP	**N/N**	N/N - Normal - Does not possess the disease-causing HYPP gene
MH	**N/N**	N/N - Normal - horse does not have the MH gene
PSSM1	**N/N**	N/N - Normal - horse does not have the PSSM1 gene

GBED - Glycogen Branching Enzyme Deficiency. Fatal disease of newborn foals caused by defect in glycogen storage. Affects heart and skeletal muscles and brain. Inherited as recessive disease.

HERDA - Hereditary Equine Regional Dermal Asthenia. Skin disease characterized by hyperextensible skin, scarring, and severe lesions along the back of affected horses. Typical onset is around 2 years of age. Inherited as a recessive disease.

HYPP - Hyperkalemic Periodic Paralysis. Muscle disease caused by defect in sodium channel gene that causes involuntary muscle contraction and increased level of potassium in blood. Inherited as dominant disease. Two copies of defective gene produce more severe signs than one copy.

MH - Malignant Hyperthermia. Rare but life-threatening skeletal muscle disease triggered by exposure to volatile anesthetics (halothane), depolarizing muscle relaxants (succinylcholine), and stress. Presumed inheritance as dominant disease.

PSSM1 - Polysaccharide Storage Myopathy Type 1. Muscle disease characterized by accumulation of abnormal complex sugars in skeletal muscles. Signs include muscle pain, stiffness, skin twitching, sweating, weakness and reluctance to move. Inherited as a dominant disease.

GBED testing performed under a license agreement with the University of Minnesota.
HERDA testing performed under a license agreement with the University of California, Davis.
PSSM1 testing performed under a license agreement with the American Quarter Horse Association.

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

MYOSIN-HEAVY CHAIN MYOPATHY (MYHM) TEST REPORT

Provided Information:

Name: **TOP GUN WHISKEY**

Registration: **5493617**

Case: **NQ122778**
Date Received: 17-Apr-2025
Report Issue Date: 24-Apr-2025
Report ID: 7970-5627-5643-1153

Verify report at vgl.ucdavis.edu/verify

DOB: **05/26/2012** *Sex:* **Stallion** *Breed:* **Quarter Horse**

Sire: PADDYS IRISH WHISKEY
Reg: 2983308
Microchip:

Dam: COWGUN
Reg: 4930711
Microchip:

RESULT

Myosin-Heavy Chain Myopathy (MYHM)	**N/My**

INTERPRETATION

Affected. One copy of the MYHM allele detected. Horse is susceptible to immune mediated myositis or nonexertional rhabdomyolysis.

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

EQUINE JUVENILE SPINOCEREBELLAR ATAXIA TEST REPORT

Provided Information:	***Case:*** **NQ122778**
Name: **TOP GUN WHISKEY**	***Date Received:*** 17-Apr-2025
Registration: **5493617**	***Report Issue Date:*** 24-Apr-2025
	Report ID: 2127-4645-2200-7000
	Verify report at vgl.ucdavis.edu/verify

DOB: **05/26/2012** *Sex:* **Stallion** *Breed:* **Quarter Horse**

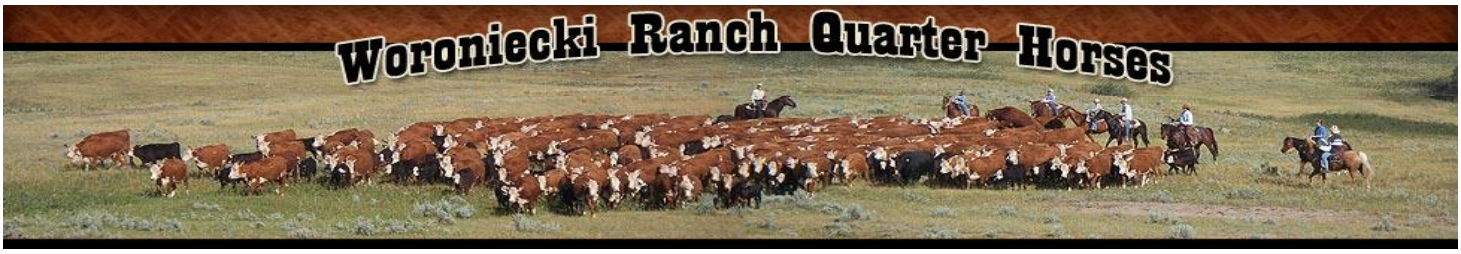
Sire: PADDYS IRISH WHISKEY	*Dam:* COWGUN
Reg: 2983308	*Reg:* 4930711
Microchip:	*Microchip:*

RESULT

Equine Juvenile Spinocerebellar Ataxia	**N/N**

INTERPRETATION

Normal. No copies of the allele associated with equine juvenile spinocerebellar ataxia (EJSCA) detected.



Jodie & Warren Woroniecki
7075 28th St.
Hebron, ND 58638
701-878-4088

Check us out online at----------
www.WoronieckiRanchQuarterHorses.com
Or email, call or stop by the ranch
woronieckiranch@westriv.com

7 Identified Diseases Information as it Pertains to Woroniecki Ranch Quarter Horses

At Woroniecki Ranch Quarter Horses we take an ethical response to any genetic diseases as they are identified. AQHA previously had a 5-panel test requirement for breeding stallions since 2015. Two more diseases have been identified and AQHA has now required a 6-panel test. A 7th disease has been identified and could soon be added to the panel. We, as well as many other breeders, have decided to test for that (EJSCA). We also know that there could be many more diseases yet to be discovered. We order our tests through the VGL laboratory of the School of Veterinary Medicine at the University of California, Davis and provide those results to AQHA and buyers. VGL is internationally recognized as a pioneer and expert in DNA-based animal testing. The effects of these equine diseases are wide-ranging, from mild and manageable to severe and terminal. We have compiled a short description of each disorder tested**. In many instances we only test the necessary specific test based upon the parents' test results. If both parents are N/N on all or some diseases then the offspring is also N/N on those diseases by default. Please see ALL PAGES of this document link.**

Glycogen Branching Enzyme Deficiency (GBED) is a fatal genetic disorder that results from the inability to correctly store glycogen in several organs of the body. Most die within couple weeks of age, but none have been known to survive more than 2 months of age. These foals are often still born. **GBED is a recessive trait and only horses that inherit both recessive genes from each parent (G/G) will be afflicted. Carriers (N/G) and non-carriers (N/N) will have no problems in their lives as they will NOT be afflicted at all, and they will be able to perform all performance activities. If you decide to breed a carrier (N/G) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

Hereditary Equine Regional Dermal Asthenia (HERDA) is an inherited skin condition primarily found in Quarter Horses that is characterized by hyperextensible skin, scarring, and severe lesions along the back of affected horses. **HERDA is a recessive trait and only horses that inherit both recessive genes from each parent (HDR/HDR) will be afflicted. Carriers (N/HDR) and non-carries (N/N) will have no problems in their lives as they will NOT be afflicted at all, and they will be able to perform all performance activities. If you decide to breed a carrier (N/HDR) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

Hyperkalemic Periodic Paralysis (HYPP) is an inherited disease of the muscles primarily found in Quarter Horses which is characterized by sporadic episodes of muscle tremors or paralysis. **HYPP is a dominant trait and carriers (N/H) will be afflicted but can be managed with careful nutritional care. It is highly recommended NOT to breed a carrier.**

Formerly known as IMM, Myosin-heavy chain myopathy (MYHM) is a muscle disease in Quarter Horses and related breeds that results in two distinct clinical disease presentations. The first presentation is called immune-mediated myositis or IMM and it is characterized by episodes of severe muscle atrophy following an autoimmune event. The second is severe muscle pain and damage termed non-exertional rhabdomyolysis or "tying-up" that is not associated with exercise and may or may not have muscle atrophy. **MYHM is a <u>codominant</u> trait and carriers (N/My) may develop a myosin-heavy chain myopathy. Horses with (My/My) may develop a more severe form of a myosin-heavy chain myopathy. It is highly recommended NOT to breed a carrier.** After consulting with veterinarians and experts in breeding who deem this disorder to not be as severe or common as HYPP or PSSM1, we have decided at this time to continue to breed certain individuals identified at WRQH. We will not breed carriers to carriers to minimize the potential. We have several aged horses that carry MYHM and have had no problems with them. If things prove differently, we will adjust at that time.

Malignant Hyperthermia (MH) is an inherited disease in which affected horses can be triggered by halogenated anesthetics, succinylcholine, stress, or excitement, which can induce a hyper-metabolic state characterized by symptoms including muscle contracture, elevated temperature, and an irregular heart rhythm. **MH is a dominant trait, and carriers (N/MH) will be afflicted if undergoing surgery or extreme stress. It is highly recommended NOT to breed a carrier.**

Polysaccharide Storage Myopathy (PSSM1) is a glycogen storage disease that results in the accumulation of abnormal complex sugars in muscle cells, which can lead to muscle pain, weakness, and reluctance to move. **PSSM1 is a dominant trait but carriers (N/PSSM1) can be managed with proper diet and exercise. It is highly recommended NOT to breed a carrier.**

Equine Juvenile Spinocerebellar Ataxia (EJSCA) is an inherited neurologic disease that causes ataxia**.** Affected foals develop ataxia, or incoordination, between 1 and 4 weeks of age. The disorder progresses within a few days until affected foals are unable to stand without assistance. **EJSCA is a recessive trait and only horses that inherit both recessive genes from each parent (JSA/JSA) will be afflicted. Carriers (N/JSA) and non-carries (N/N) will have no problems in their lives as they will NOT be afflicted at all and they will be able to perform all performance activities. If deciding to breed a carrier (N/JSA) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

Two ID Sweet Shine (AQHA # 5858505)
2017 Bay Roan Mare

GBED Status	N/N
HERDA Status	N/N
HYPP Status	N/N
MYHM Status	N/N
MH Status	N/N
PSSM1 Status	N/N
EJSCA Status	N/N

5 Panel NN via parentage.

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

AQHA GENETIC DISEASE PANEL TEST REPORT

Client/Owner/Agent Information: AMERICAN QUARTER HORSE ASSOCIATION	*Date Received:* 31-Jan-2013
Provided Information:	*Report Issue Date:* 08-Jul-2021
Name: **TWO ID SWEET JACK**	*Report ID:* 7178-1307-4138-6093
Registration: **3284912**	*Reissue of:* 3786-6954-4722-7073

YOB: **1994** *Sex:* **Stallion** *Breed:* **Quarter Horse** *Alt. ID:* **3826919**

Sire: TWO ID BARTENDER	*Dam:* MISS SWEETY JACK
Reg: 1535314	*Reg:* 2312387
Microchip:	*Microchip:*

	RESULT	INTERPRETATION
Glycogen Branching Enzyme Deficiency (GBED)	N/N	Normal - Does not possess the disease-causing GBED gene
Hereditary Equine Regional Dermal Asthenia (HERDA)	N/N	Normal - horse does not have the HERDA gene
Hyperkalemic Periodic Paralysis (HYPP)	N/N	Normal - Does not possess the disease-causing HYPP gene
Malignant Hyperthermia (MH)	N/N	Normal - horse does not have the MH gene
Polysaccharide Storage Myopathy Type 1 (PSSM1)	N/N	Normal - horse does not have the PSSM1 gene

Additional Information

If testing for a disease or a disorder was performed and results indicate the animal is affected or at risk, we recommend contacting your veterinarian for further clinical evaluation and for additional information on disease and management.

For more detailed information on Equine Disease Panel test results, please visit our website at:
www.vgl.ucdavis.edu/services/horse/qhpanel.php

License Information

GBED testing performed under a license agreement with the University of Minnesota.
PSSM1 testing performed under a license agreement with the American Quarter Horse Association.

Additional Comments

Results are determined using PCR-based methods. The results relate only to the sample tested as identified by the submitter (for example, identity and/or breed).

Report authorized by Dr. Rebecca Bellone, VGL Director

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

AQHA GENETIC DISEASE PANEL TEST REPORT

Client/Owner/Agent Information: AMERICAN QUARTER HORSE ASSOCIATION	*Date Received:* 12-Feb-2018
Provided Information:	*Report Issue Date:* 08-Jul-2021
Name: **ZAN N SHINE**	*Report ID:* 5642-6107-4266-9135
Registration: **5547141**	*Reissue of:* 1122-2323-3255-1111

YOB: **2013** *Sex:* **Mare** *Breed:* **Quarter Horse** *Alt. ID:* **6536420**

Sire: FUEL N SHINE	*Dam:* LIZZIE ZAN PARR
Reg: 4500797	*Reg:* 3957424
Microchip:	*Microchip:*

RESULT		INTERPRETATION
Glycogen Branching Enzyme Deficiency (GBED)	N/N	Normal - Does not possess the disease-causing GBED gene
Hereditary Equine Regional Dermal Asthenia (HERDA)	N/N	Normal - horse does not have the HERDA gene
Hyperkalemic Periodic Paralysis (HYPP)	N/N	Normal - Does not possess the disease-causing HYPP gene
Malignant Hyperthermia (MH)	N/N	Normal - horse does not have the MH gene
Polysaccharide Storage Myopathy Type 1 (PSSM1)	N/N	Normal - horse does not have the PSSM1 gene

Additional Information

If testing for a disease or a disorder was performed and results indicate the animal is affected or at risk, we recommend contacting your veterinarian for further clinical evaluation and for additional information on disease and management.

For more detailed information on Equine Disease Panel test results, please visit our website at:
www.vgl.ucdavis.edu/services/horse/qhpanel.php

License Information

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PSSM1 testing performed under a license agreement with the American Quarter Horse Association.

Additional Comments

Results are determined using PCR-based methods. The results relate only to the sample tested as identified by the submitter (for example, identity and/or breed).

Report authorized by Dr. Rebecca Bellone, VGL Director

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

MYOSIN-HEAVY CHAIN MYOPATHY (MYHM) TEST REPORT

Provided Information:

Name: **TWO ID SWEET SHINE**

Registration: **5858505**

Case: **NQ123399**
Date Received: 01-May-2025
Report Issue Date: 06-May-2025
Report ID: 1111-3878-3476-6155

Verify report at vgl.ucdavis.edu/verify

DOB: **04/08/2017** *Sex:* **Mare** *Breed:* **Quarter Horse**

Sire: TWO ID SWEET JACK
Reg: 3284912
Microchip:

Dam: ZAN N SHINE
Reg: 5547141
Microchip:

RESULT

Myosin-Heavy Chain Myopathy (MYHM)	**N/N**

INTERPRETATION

Normal. No copies of the MYHM allele detected. Horse does not have increased susceptibility for immune mediated myositis or nonexertional rhabdomyolysis caused by the MYHM allele.

UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

EQUINE JUVENILE SPINOCEREBELLAR ATAXIA TEST REPORT

Provided Information:	***Case:*** **NQ123399**
Name: **TWO ID SWEET SHINE**	***Date Received:*** 01-May-2025
Registration: **5858505**	***Report Issue Date:*** 06-May-2025
	Report ID: 3819-6466-9929-8171
	Verify report at vgl.ucdavis.edu/verify

DOB: **04/08/2017** *Sex:* **Mare** *Breed:* **Quarter Horse**

Sire: TWO ID SWEET JACK	*Dam:* ZAN N SHINE
Reg: 3284912	*Reg:* 5547141
Microchip:	*Microchip:*

RESULT

Equine Juvenile Spinocerebellar Ataxia	**N/N**

INTERPRETATION

Normal. No copies of the allele associated with equine juvenile spinocerebellar ataxia (EJSCA) detected.