

DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0001
TAG NUMBER: CHC19-0001
LAB NUMBER: 6145U001
BREED: BONSMARA
GENDER: M
CLIENT NAME: BOSHOF BONS MARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**
GENETIC TEST RESULT FOR Q204X: **CARRIER OF Q204X MUTATION**
GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for the *F94L* and *nt821* myostatin mutations, as well as one mutant copy of the *Q204X* mutation. It is advised to not breed this animal to another carrier.

Yours faithfully



C Rossouw
Animal Genetics
Division Manager
Unistel Medical Laboratory

Disclaimer:

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0005

TAG NUMBER: CHC19-0005

LAB NUMBER: 6145U002

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: CLEAR OF F94L MUTATION

GENETIC TEST RESULT FOR Q204X: CLEAR OF Q204X MUTATION

GENETIC TEST RESULT FOR nt821: CLEAR OF nt821 MUTATION

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for all three myostatin mutations and will neither develop nor pass on the specified mutations for myostatin double muscling to its offspring.

Yours faithfully



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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0034

TAG NUMBER: CHC19-0034

LAB NUMBER: 6145U003

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**

GENETIC TEST RESULT FOR Q204X: **CLEAR OF Q204X MUTATION**

GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

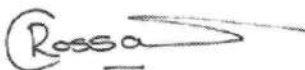
TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0037

TAG NUMBER: CHC19-0037

LAB NUMBER: 6145U005

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**

GENETIC TEST RESULT FOR Q204X: **CLEAR OF Q204X MUTATION**

GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

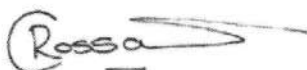
TEST DESCRIPTION:

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0038

TAG NUMBER: CHC19-0038

LAB NUMBER: 6145U006

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**

GENETIC TEST RESULT FOR Q204X: **CLEAR OF Q204X MUTATION**

GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0040

TAG NUMBER: CHC19-0040

LAB NUMBER: 6145U008

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOF BONSMARAS

GENETIC TEST RESULT FOR F94L: CLEAR OF F94L MUTATION

GENETIC TEST RESULT FOR Q204X: CLEAR OF Q204X MUTATION

GENETIC TEST RESULT FOR nt821: CLEAR OF nt821 MUTATION

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0041
TAG NUMBER: CHC19-0041
LAB NUMBER: 6145U009
BREED: BONSMARA
GENDER: M
CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**
GENETIC TEST RESULT FOR Q204X: **CLEAR OF Q204X MUTATION**
GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

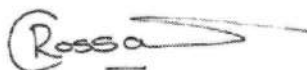
TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0042

TAG NUMBER: CHC19-0042

LAB NUMBER: 6145U010

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**

GENETIC TEST RESULT FOR Q204X: **CARRIER OF Q204X MUTATION**

GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for the *F94L* and *nt821* myostatin mutations, as well as one mutant copy of the *Q204X* mutation. It is advised to not breed this animal to another carrier.

Yours faithfully



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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0043
TAG NUMBER: CHC19-0043
LAB NUMBER: 6145U011
BREED: BONSMARA
GENDER: M
CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**
GENETIC TEST RESULT FOR Q204X: **CARRIER OF Q204X MUTATION**
GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

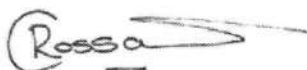
TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for the *F94L* and *nt821* myostatin mutations, as well as one mutant copy of the *Q204X* mutation. It is advised to not breed this animal to another carrier.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0065

TAG NUMBER: CHC19-0065

LAB NUMBER: 6145U013

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**

GENETIC TEST RESULT FOR Q204X: **CLEAR OF Q204X MUTATION**

GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

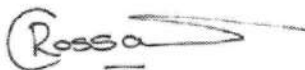
TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for all three myostatin mutations and will neither develop nor pass on the specified mutations for myostatin double muscling to its offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0067

TAG NUMBER: CHC19-0067

LAB NUMBER: 6145U014

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: CLEAR OF F94L MUTATION

GENETIC TEST RESULT FOR Q204X: CLEAR OF Q204X MUTATION

GENETIC TEST RESULT FOR nt821: CLEAR OF nt821 MUTATION

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for all three myostatin mutations and will neither develop nor pass on the specified mutations for myostatin double muscling to its offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0069

TAG NUMBER: CHC19-0069

LAB NUMBER: 6145U015

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: CLEAR OF *F94L* MUTATION

GENETIC TEST RESULT FOR Q204X: CLEAR OF *Q204X* MUTATION

GENETIC TEST RESULT FOR nt821: CLEAR OF *nt821* MUTATION

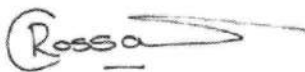
TEST DESCRIPTION:

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BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for all three myostatin mutations and will neither develop nor pass on the specified mutations for myostatin double muscling to its offspring.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0074

TAG NUMBER: CHC19-0074

LAB NUMBER: 6145U016

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: CLEAR OF F94L MUTATION

GENETIC TEST RESULT FOR Q204X: CARRIER OF Q204X MUTATION

GENETIC TEST RESULT FOR nt821: CLEAR OF nt821 MUTATION

TEST DESCRIPTION:

Double muscling or muscular hypertrophy is an inherited condition in cattle, characterised by hyperplasia (enlargement of muscle due to the increase of the amount of cells) and, to a lesser extent, hypertrophy (enlargement of the tissue due to increase in the cell size) of muscle fibres. These animals are extremely heavily muscled in appearance. There is usually little covering fat, and bones are thin. Three mutations, namely *nt821*, *F94L* and *Q204X* give rise to the loss of function of the myostatin gene. Double muscling can be characterized by reduced bone mass, tolerance for heat stress, fertility, milk production as well as an increased incidence of dystosia and calf mortality. Carriers may be bred to normal animals without any risk of producing affected offspring.

BREEDING IMPLICATIONS OF TEST RESULT:

This animal has two copies of the normal allele for the *F94L* and *nt821* myostatin mutations, as well as one mutant copy of the *Q204X* mutation. It is advised to not breed this animal to another carrier.

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0078

TAG NUMBER: CHC19-0078

LAB NUMBER: 6145U017

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: **CLEAR OF F94L MUTATION**

GENETIC TEST RESULT FOR Q204X: **CLEAR OF Q204X MUTATION**

GENETIC TEST RESULT FOR nt821: **CLEAR OF nt821 MUTATION**

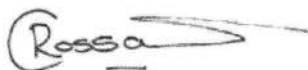
TEST DESCRIPTION:

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DNA TEST FOR MYOSTATIN DOUBLE MUSCLING

REGISTERED NAME: CHC19-0085

TAG NUMBER: CHC19-0085

LAB NUMBER: 6145U018

BREED: BONSMARA

GENDER: M

CLIENT NAME: BOSHOFF BONSMARAS

GENETIC TEST RESULT FOR F94L: CLEAR OF F94L MUTATION

GENETIC TEST RESULT FOR Q204X: CLEAR OF Q204X MUTATION

GENETIC TEST RESULT FOR nt821: CLEAR OF nt821 MUTATION

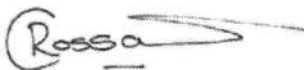
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