



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

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

CATTLE COAT COLOR TEST RESULTS

MICHAEL ROBINSON 431 CALLOWHILL RD. MOHRSVILLE, PA 19541	Case: NC18953 Date Received: 08-Apr-2014 Print Date: 10-May-2016 Report ID: 6307-7718-0539-2120 Verify report at www.vgl.ucdavis.edu/myvgl/verify.html
Name: MPRR HANS DOB: 04/04/2014 Sex: Male Breed:	Reg: IMCBS
Sire: D C LITTLE DYNAMITE Dam: RIVERVIEW ROSEBUD	Reg: AMJ 967 / 4973-MCBB Reg: AMJ641P/4972MCBB

MC1R (EXTENSION)
E+/e

CHAROLAIS DILUTION
Not Requested

Result Codes:

MC1R (EXTENSION)

- E^D/E^D Dominant black. This animal cannot produce red offspring*
- E^D/E⁺ Dominant black, carrier of wild type
- E^D/e Dominant black, carrier of recessive red
- E⁺/E⁺ Wild type
- E⁺/e Wild type, carrier of recessive red
- e/e Recessive red. When bred to another 'e/e' will produce only red offspring

* In Holsteins, there are two other variants that can mask the effects of the other MC1R (Extension) alleles. These are known as 'Black/Red' (red color changes to black) and 'Variant Red' (dominant red color). This test for MC1R does not detect these alleles.

CHAROLAIS DILUTION

- Dc/Dc Two copies of Charolais dilution. Coat color is white
- Dc/N One copy of Charolais dilution. Coat color is gray or pale-red
- N/N No copies of Charolais dilution

This test specifically detects the mutation in the SILV gene known to cause white phenotype of the Charolais breed. Several genes are involved in the production of cattle color and pattern. The results above may not completely describe the color of the animal tested.

For more detailed information on Cattle Coat Color results, please go to:
www.vgl.ucdavis.edu/services/coatcolorcattle.php

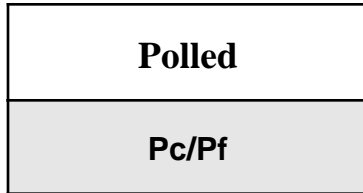


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CATTLE POLLED TEST RESULTS

MICHAEL ROBINSON 431 CALLOWHILL RD. MOHRSVILLE, PA 19541	Case: NC18953 Date Received: 08-Apr-2014 Print Date: 10-May-2016 Report ID: 3173-0446-5713-4057 Verify report at www.vgl.ucdavis.edu/myvgl/verify.html
Name: MPRR HANS DOB: 04/04/2014 Sex: Male Breed:	Reg: IMCBS
Sire: D C LITTLE DYNAMITE Dam: RIVERVIEW ROSEBUD	Reg: AMJ 967 / 4973-MCBB Reg: AMJ641P/4972MCBB



Result Codes:

- H/H** HORNED. No copies of either Polled molecular marker are present.
- Pf/H** POLLED. One copy of the Polled-Friesian molecular marker is present. At least 50% of the offspring will be polled.
- Pf/Pf** POLLED. Two copies of the Polled-Friesian molecular marker are present. All offspring will be polled.
- Pc/H** POLLED. One copy of the Polled-Celtic molecular marker is present. At least 50% of the offspring will be polled.
- Pc/Pc** POLLED. Two copies of the Polled-Celtic molecular marker are present. All offspring will be polled.
- Pc/Pf** POLLED. One copy of Polled-Celtic and 1 copy of Polled-Friesian molecular markers are present. All offspring will be polled.



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MILK PROTEIN DNA TEST REPORT

MICHAEL ROBINSON 431 CALLOWHILL RD. MOHRSVILLE, PA 19541	Case: NC18953 Date Received: 08-Apr-2014 Print Date: 10-May-2016 Report ID: 9771-2817-0791-3131 Verify report at www.vgl.ucdavis.edu/myvgl/verify.html
Name: MPRR HANS DOB: 04/04/2014 Sex: Male Breed:	Reg: IMCBS
Sire: D C LITTLE DYNAMITE Dam: RIVERVIEW ROSEBUD	Reg: AMJ 967 / 4973-MCBB Reg: AMJ641P/4972MCBB

A2 Genotyping	Kappa Casein	Beta Lactoglobulin
A2/A2	Not Requested	Not Requested

A2 Genotyping (Beta Casein) - milk yield and protein content. The **A2** variant has been shown to have a positive association with milk yield and protein content. The **A2/A2** genotype is also considered to have positive effects on human health.

Kappa Casein - protein yield and percentage. The **A** variant and **AA** genotype are associated with higher milk production. The **B** variant and **BB** genotype are associated with increased milk protein and casein content, and better cheese yield. Relative to protein content and cheese production, **BB** is the most favorable genotype, **AB** is intermediate and **AA** is the least favorable.

Beta Lactoglobulin - milk yield and whey protein content. The **A** variant is associated with increased milk yield and whey protein content. The **B** variant is associated with increased casein and fat content and is favorable for cheese production.

As a licensed laboratory, VGL is required to send A2 Corporation Limited a copy of all A2 Gene Tests. **Note: ONLY the A2 Beta Casein result will be sent to A2 Corporation Limited.**

VGL is an A2 Corporation Limited (A2C) accredited and registered A2 Gene Tester. A2 Gene Tests conform to the specification and are validated to the standards of A2C. A2C will only access information relating to you and your animals from testing carried out by the VGL for the purpose of contacting you about potential milk supply and to maintain a register of A2 gene tested animals. A2C owns various intellectual property rights (including patent rights, trade marks, and technical and commercial know how) relating to the commercial production and sale of a2™ branded milk or milk with reduced beta casein A1. It is possible that commercial use of test results may fall within the scope of such intellectual property rights, so if you intend to form a herd of animals used to produce a2™ branded milk or milk with reduced beta casein A1 on a commercial scale, you should contact A2C for more information.



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CATTLE PARENTAGE AND GENETIC MARKER REPORT

MICHAEL ROBINSON 431 CALLOWHILL RD. MOHRSVILLE, PA 19541	Case: NC18953 Date Received: 08-Apr-2014 Print Date: 10-May-2016 Report ID: 8216-0863-7696-0146 Verify report at www.vgl.ucdavis.edu/myvgl/verify.html
Name: MPRR HANS <i>DOB:</i> 04/04/2014 <i>Sex:</i> Male <i>Breed:</i>	Reg: IMCBS
<i>Sire:</i> D C Little Dynamite <i>Dam:</i> Riverview Rosebud	<i>Reg:</i> AMJ 967 / 4973-MCBR <i>Reg:</i> AMJ641P/4972MCBR

PARENTAGE ANALYSIS

MPRR Hans IMCBS qualifies as an offspring of Riverview Rosebud AMJ641P/4972MCBR and D C Little Dynamite AMJ 967 / 4973-MCBR.

GENETIC MARKERS

LOCUS	TYPE	LOCUS	TYPE	LOCUS	TYPE
BM1818	266	BM1824	178/180	BM2113	129/137
BRR	254/260	CYP21	198/200	ETH003	117
ETH10	217	ETH225	148/150	INRA23	198/214
RM006	110	RM067	90	SPS115	252
TGLA122	143/151	TGLA126	117	TGLA227	91
TGLA53	170/182				