



Unistel Medical Laboratories  
**Genetic Report**  
 BOVINESNP50-24 v3 BeadChip

Dr PJ Pienaar  
 Plaas Paardeplaats  
 Drakensberger  
**F19-0205**  
**261260U006**

Animal Tested:

Sample type:

Hair

| Description      | Mutations                   | Status              | Description  | Mutations Tested                 | Status                                                                |
|------------------|-----------------------------|---------------------|--------------|----------------------------------|-----------------------------------------------------------------------|
| Coat colouration | MC1R - e                    | E+/E+               | Meat         | Calpain 1 - 316                  | G/G - Normal breakdown                                                |
|                  | MC1R - ED                   | Ed/Ed               | Tenderness   | Calpain 1 - 4751                 | C/C - Faster breakdown                                                |
|                  | Dun Dexter Dilution (TYPR1) | +/+                 |              | Calpain 1 - 530                  | G/G - Normal breakdown                                                |
|                  | Silver Dilution type 1      | +/+                 |              | Calpastatin - 282                | G/C - Intermediate inhibition of Calpain                              |
|                  | Silver Dilution type 2      | +/+                 |              | Calpastatin - 2870               | A/G - Intermediate inhibition of Calpain                              |
| Myostatin Status | Myostatin C313Y             | Clear               |              | Calpastatin - 2959               | A/G - Intermediate inhibition of Calpain                              |
|                  | Myostatin E226X             | Clear               |              |                                  |                                                                       |
|                  | Myostatin E291X             | Clear               | Milk status  | Beta Casein - 245                | A2/A2                                                                 |
|                  | Myostatin nt419             | Clear               |              | Beta Casein - 411                | B/B                                                                   |
|                  | Myostatin nt821             | Clear               |              | Kappa Casein - 352               | A/A                                                                   |
|                  | Myostatin Q204X             | Clear               |              | Kappa Casein - 467               | G1/G1                                                                 |
|                  | Myostatin D182N             | Clear               |              | Kappa Casein - 470               | A/A                                                                   |
|                  | Myostatin F94L              | Clear               |              | Kappa Casein - 506               | B/B                                                                   |
|                  | Myostatin S105C             | Clear               |              | Kappa Casein - 526               | A/A                                                                   |
| POMPE Status     | E13 mutation                | Clear               |              |                                  |                                                                       |
|                  | E18 mutation                | Clear               | Milk quality | Growth Hormone F279Y             | Increased milk, casein & lactose yield; decreased protein & fat yield |
|                  | E7 mutation                 | Clear               |              | Growth Hormone 2141              | Decreased milk protein & fat yield                                    |
|                  |                             |                     |              | Growth Hormone 2291              | Normal milk fat yield, fat & protein %                                |
| Heat Tolerance   | SLICK                       | No added resistance |              | ABCG2 - protein yield milk       | Normal fat, protein & milk yield. Normal fat & protein %.             |
| Eye Disorders    | Pinkeye resistance          | Reduced risk 16-26% |              | AcylCoA - milk fat percentage    | Normal fat, protein & milk yield; normal fat & protein %              |
| Bone Disorder    | Osteopetrosis               | Clear               |              | Trimethylaminuria excess in milk | Clear                                                                 |
|                  |                             |                     |              | Yellow milk fat                  | Average yellow fat                                                    |
|                  |                             |                     | Hornedness   | Polled (Celtic and Friesian)     | Horned                                                                |

Disclaimer: Unistel reports these results on the premise that the biological samples received are from the individuals nominated by the owner/breeder/requestee. This certificate replaces all previous issued certificates. While every effort is made to prevent incorrect results, Unistel Medical Laboratories does not accept any responsibility for any losses that may occur as a result of human or technical error. Should gross negligence be proven, the claim shall not exceed the value of the contract.



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Dr PJ Pienaar  
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**HN21-0087**  
**261260U007**

Animal Tested:

Sample type:

Hair

| Description      | Mutations                   | Status              | Description  | Mutations Tested                 | Status                                                                                    |
|------------------|-----------------------------|---------------------|--------------|----------------------------------|-------------------------------------------------------------------------------------------|
| Coat colouration | MC1R - e                    | E+/E+               | Meat         | Calpain 1 - 316                  | G/C - Intermediate breakdown                                                              |
|                  | MC1R - ED                   | Ed/Ed               | Tenderness   | Calpain 1 - 4751                 | C/T - Intermediate breakdown                                                              |
|                  | Dun Dexter Dilution (TYPR1) | +/+                 |              | Calpain 1 - 530                  | A/G - Intermediate breakdown                                                              |
|                  | Silver Dilution type 1      | +/+                 |              | Calpastatin - 282                | C/C - Does not inhibit Calpain                                                            |
|                  | Silver Dilution type 2      | +/+                 |              | Calpastatin - 2870               | G/G - Does not inhibit Calpain                                                            |
| Myostatin Status | Myostatin C313Y             | Clear               |              | Calpastatin - 2959               | A/A - Does not inhibit Calpain                                                            |
|                  | Myostatin E226X             | Clear               |              |                                  |                                                                                           |
|                  | Myostatin E291X             | Clear               | Milk status  | Beta Casein - 245                | A2/A2                                                                                     |
|                  | Myostatin nt419             | Clear               |              | Beta Casein - 411                | B/B                                                                                       |
|                  | Myostatin nt821             | Clear               |              | Kappa Casein - 352               | A/A                                                                                       |
|                  | Myostatin Q204X             | Clear               |              | Kappa Casein - 467               | A/G1                                                                                      |
|                  | Myostatin D182N             | Clear               |              | Kappa Casein - 470               | A/A                                                                                       |
|                  | Myostatin F94L              | Clear               |              | Kappa Casein - 506               | B/B                                                                                       |
| POMPE Status     | Myostatin S105C             | Clear               |              | Kappa Casein - 526               | A/A                                                                                       |
|                  | E13 mutation                | Clear               |              |                                  |                                                                                           |
|                  | E18 mutation                | Clear               | Milk quality | Growth Hormone F279Y             | Increased milk, casein & lactose yield; decreased protein & fat yield                     |
|                  | E7 mutation                 | Clear               |              | Growth Hormone 2141              | Decreased milk protein & fat yield                                                        |
| Heat Tolerance   | SLICK                       | No added resistance |              | Growth Hormone 2291              | Increased milk fat yield, fat & protein %                                                 |
|                  |                             |                     |              | ABCG2 - protein yield milk       | Slightly increased milk yield. Slightly decreased fat & protein %.                        |
| Eye Disorders    | Pinkeye resistance          | Reduced risk 16-26% |              | AcylCoA - milk fat percentage    | Slightly increased milk & protein yield; slightly decreased fat yield, fat % & protein %. |
| Bone Disorder    | Osteopetrosis               | Clear               |              | Trimethylaminuria excess in milk | Clear                                                                                     |
|                  |                             |                     |              | Yellow milk fat                  | Normal yellow fat                                                                         |
|                  |                             |                     | Hornedness   | Polled (Celtic and Friesian)     | Horned                                                                                    |

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