

## CATTLE COAT COLOR TEST REPORT

Provided Information: Case: NC96319

Name: Date Received: 09-Sep-2025
Report Issue Date: 16-Sep-2025

*Registration:* 8859-5325-5409-3184

Verify report at vgl.ucdavis.edu/verify

DOB: 05/04/2024 Sex: Male Breed: American Highland

#### **RESULT**

## INTERPRETATION

DILUTION (PMEL17)	N/N	No copies of the PMEL17 variants associated with the dilute color phenotype.
MC1R (EXTENSION)	E <sup>D</sup> /e	Dominant black, carrier of recessive red.



## CATTLE COAT COLOR TEST REPORT

Client/Owner/Agent Information:

RICKEE MILLER HOFFNER HILL FARM 918 MOUNTAIN VIEW ROAD SHERMANS DALE, PA 17090 
 Case:
 NC96319

 Date Received:
 09-Sep-2025

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Verify report at vgl.ucdavis.edu/verify

Name: ERNIE/UNCLE ERNIE

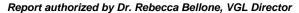
#### **Additional Information**

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 Cattle Coat Color test results, please visit our website at: vgl.ucdavis.edu/test/mc1r-cattle vgl.ucdavis.edu/test/cattle-dilution

For terms and conditions of testing, please see vgl.ucdavis.edu/about/terms-and-conditions

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).







# **Highland Coat Color**

The coat color phenotype in cattle depends on multiple genes. The Veterinary Genetics Laboratory offers testing for Extension (*MC1R* gene) and Dilution (*PMEL17* gene).

The table below shows the expected phenotype based on the various possible genotype combinations of these two genes. While these two loci together explain some coat color phenotypes in Highland cattle, it is important to note that other, yet unknown, genes may influence the resulting coat color observed and the animal may have a different phenotype than what is predicted by the Extension and Dilution genotypes alone.

Extension (MC1R)	Dun Dilution (PMEL17)	Coat Color Phenotype Predictions
E+/E+	N/N	Red
E+/e	N/N	Red
e/e	N/N	Red
E+/E+	Dh/N	Yellow
E+/e	Dh/N	Yellow
e/e	Dh/N	Yellow
E+/E+	Dh/Dh	White/cream
E+/e	Dh/Dh	White/cream
e/e	Dh/Dh	White/cream
ED/ED	N/N	Black
ED/E+	N/N	Black
ED/e	N/N	Black
ED/ED	Dh/N	Dun
ED/E+	Dh/N	Dun
ED/e	Dh/N	Dun
ED/ED	Dh/Dh	Silver Dun (CAN) or Silver (USA)*
ED/E+	Dh/Dh	Silver Dun (CAN) or Silver (USA)*
ED/e	Dh/Dh	Silver Dun (CAN) or Silver (USA)*

Table 1: Coat color phenotypes based on Extension and Dilution genotypes. *Adapted from Schmutz SM, Dreger DL. (2013) doi: 10.1111/j.1365-2052.2012.02361.x.* 

For more detailed information about these coat color genes, please visit our website at https://vgl.ucdavis.edu/test/mc1r-cattle and https://vgl.ucdavis.edu/test/cattle-dilution

<sup>\*</sup> The Canadian Highland Cattle Society uses the term "Silver Dun" whereas the American Highland Cattle Association refers to this phenotype as "Silver