UCDAVIS VETERINARY MEDICINE
Veterinary Genetics Laboratory

CATTLE COAT COLOR TEST REPORT

Provided Information:	***Case:*** **NC103319**
Name: **HHF FAITH**	***Date Received:*** 15-Apr-2026
Registration:	***Report Issue Date:*** 22-Apr-2026
	Report ID: 4818-9795-6442-9124
	Verify report at vgl.ucdavis.edu/verify

DOB: **03/29/2026** *Sex:* **Female** *Breed:* **American Highland**

RESULT		INTERPRETATION
DILUTION (PMEL17)	**N/N**	No copies of the PMEL17 variants associated with the dilute color phenotype.
MC1R (EXTENSION)	**E^{+}/e**	Wild type, carrier of recessive red.

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Client/Owner/Agent Information:	*Case:* **NC103319**
RICKEE MILLER HOFFNER HILL FARM 918 MOUNTAIN VIEW ROAD SHERMANS DALE, PA 17090	***Date Received:*** 15-Apr-2026 ***Report Issue Date:*** 22-Apr-2026 ***Report ID:*** 4818-9795-6442-9124 Verify report at vgl.ucdavis.edu/verify

Name: **HHF FAITH**

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).

Report authorized by Dr. Rebecca Bellone, VGL Director

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17025 TESTING LABORATORY

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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.*

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

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