dr. van haeringen laboratorium b.v.

a VHLGenetics company

Schlemmer
Schulstr. 13
74915 Waibstadt-Daisbach
GERMANY
Customer number 106608

Analysis Certificate

Animal data

Name:	CRIDHEMOR STONE OF DESTINY
Date of birth:	03.06.2023
Sexe:	Male
Chip number:	953010100191010
Breed:	English Cocker Spaniel

Sample data

VHL_ID:	H599917
Test ID-nr:	597361 4
Material:	Blood

H847 - Coat Colour D-Locus 1 - Dog - Date of test: 02.12.2024
Testresult: D/D

H819 - Coat Colour K-Locus (Dominant Black) - Date of test: 02.12.2024
Testresult: KB/N

H820 - Coat Colour A-locus (Agouti) - Dog - Date of test: 02.12.2024
Testresult: at/at

H821 - Coat Colour I-Locus (Intensity) - Date of test: 02.12.2024
Testresult: I/I

H783 - Coat Colour E-locus - e3 (Husky yellow/white) - Date of test: 02.12.2024
Testresult: E/E

H784 - Coat Colour E-locus - Eg (Grizzle) - Date of test: 02.12.2024
Testresult: E/E

H734 - Coat Colour E-locus - e1 (red/yellow) - Date of test: 02.12.2024
Testresult: e/e

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H632 - Coat Colour E-Locus - e2 (Austr Cattle Dog cream) - Date of test: 02.12.2024
Testresult: E/E

H818 - Coat Colour E-locus - Em (Melanistic Mask) - Date of test: 02.12.2024
Testresult: N/N

H733 - Coat Colour B-locus - Date of test: 02.12.2024
Testresult: B/b or b/b

H764 - Coat Colour B-locus Be - Date of test: 02.12.2024
Testresult: B/B

H767 - Coat Colour B-locus Bh - Date of test: 02.12.2024
Testresult: B/B

H453 - Coat Colour B-locus - Australian Shepherd - Date of test: 02.12.2024
Testresult: B/B

H681 - Curly Coat (c2) - Dog - Date of test: 02.12.2024
Testresult: Normal

H887 - Coat Colour Co-Locus (Cocoa) - Date of test: 02.12.2024
Testresult: N/N

H461 - Coat Colour D-Locus 2 - Dog - Date of test: 02.12.2024
Testresult: D/D

H897 - Coat Colour D-locus 3 - Dog - Date of test: 02.12.2024
Testresult: D/D

H316 - Coat colour H-locus (Harlequin) - Date of test: 02.12.2024
Testresult: N/N

H630 - Coat Colour Merle
Testresult: Test in progress.

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H751 - Coat Colour Oculocutaneous Albimism (OCA1) - Date of test: 02.12.2024
Testresult: N/N

H894 - Coat Colour Oculocutaneous Albimism (OCA2) - Date of test: 02.12.2024
Testresult: N/N

H715 - Coat Colour Oculocutaneous Albimism (OCA4-1) - Date of test: 02.12.2024
Testresult: Normal

H393 - Coat Colour Oculocutaneous Albinisme (OCA4-3) - Date of test: 02.12.2024
Testresult: NORMAL

H763 - Coat Colour Roan - Ticked - Date of test: 25.11.2024
Testresult: Tr/Tr (Roan)

H326 - Coat Colour S-locus (Piebald) - Date of test: 02.12.2024
Testresult: S/S

H354 - Coat Colour Panda White Spotting - Date of test: 02.12.2024
Testresult: N/N

H848 - Improper Coat/Furnishings - Date of test: 02.12.2024
Testresult: IC/IC

H765 - Hair Length - 1 - Date of test: 02.12.2024
Testresult: L/L

H885 - Hair length - 2 - Date of test: 02.12.2024
Testresult: S/S

H664 - Hair Length - 3 - Date of test: 02.12.2024
Testresult: S/S

H665 - Hair Length - 4 - Date of test: 02.12.2024
Testresult: S/S

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H666 - Hair Length - 5 - Date of test: 02.12.2024
Testresult: S/S

H910 - Coat Colour Saddle tan vs black-and-tan IMPROVED - Date of test: 02.12.2024
Testresult: dup/dup

H921 - Curly Coat (c1) - Dog - Date of test: 02.12.2024
Testresult: N/N

H972 - Recessive Hypotrichosis – American Hairless Terr - Date of test: 02.12.2024
Testresult: Normal

H973 - Recessive Hypotrichosis – Scottish Deerhound - Date of test: 02.12.2024
Testresult: Normal

H299 - Coat Type SD-Locus (Shedding MCR5) - Date of test: 02.12.2024
Testresult: Affected

A. de Lange MBA
CEO

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H847 - Coat Colour D-Locus 1 - Dog
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H819 - Coat Colour K-Locus (Dominant Black)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H820 - Coat Colour A-locus (Agouti) - Dog
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H821 - Coat Colour I-Locus (Intensity)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

This test is based on an association study.

H783 - Coat Colour E-locus - e3 (Husky yellow/white)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H784 - Coat Colour E-locus - Eg (Grizzle)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H734 - Coat Colour E-locus - e1 (red/yellow)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H632 - Coat Colour E-Locus - e2 (Austr Cattle Dog cream)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H818 - Coat Colour E-locus - Em (Melanistic Mask)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H733 - Coat Colour B-locus
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

In case two or three single copy variants of bc, bd and bs are detected in a dog, the presence of multiple variants on a single chromosome cannot be excluded. Therefore, the overall B-locus genotype for a dog can be B/b or b/b. In this kind of situation, evaluating the color of the dogs nose will indicate whether or not te dog has B/b (black nose) or b/b (brown nose).

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H764 - Coat Colour B-locus Be
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H767 - Coat Colour B-locus Bh
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H453 - Coat Colour B-locus - Australian Shepherd
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H681 - Curly Coat (c2) - Dog
Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this specific variant. The animal will not develop the described clinical features due to this variant. When used in breeding, a healthy allele will be passed to all offspring.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal will not develop the described clinical features due to this variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will most likely develop the described clinical features due to this variant. When used in breeding, all offspring will receive an affected allele.

H887 - Coat Colour Co-Locus (Cocoa)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

This test is based on an association study.

H461 - Coat Colour D-Locus 2 - Dog
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H897 - Coat Colour D-locus 3 - Dog
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

This test is based on an association study.

H316 - Coat colour H-locus (Harlequin)
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H630 - Coat Colour Merle
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H751 - Coat Colour Oculocutaneous Albimism (OCA1)

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Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this specific variant. The animal will not develop the described clinical features due to this variant. When used in breeding, a healthy allele will be passed to all offspring.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal will not develop the described clinical features due to this variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will most likely develop the described clinical features due to this variant. When used in breeding, all offspring will receive an affected allele.

H894 - Coat Colour Oculocutaneous Albimism (OCA2)

Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H715 - Coat Colour Oculocutaneous Albimism (OCA4-1)

Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this specific variant. The animal will not develop the described clinical features due to this variant. When used in breeding, a healthy allele will be passed to all offspring.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal will not develop the described clinical features due to this variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will most likely develop the described clinical features due to this variant. When used in breeding, all offspring will receive an affected allele.

H393 - Coat Colour Oculocutaneous Albinisme (OCA4-3)

Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this specific variant. The animal will not develop the described clinical features due to this variant. When used in breeding, a healthy allele will be passed to all offspring.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal will not develop the described clinical features due to this variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will most likely develop the described clinical features due to this variant. When used in breeding, all offspring will receive an affected allele.

H763 - Coat Colour Roan - Ticked

Information about the coat colour Roan - Ticked test:
t/t (Clear): No ticked or roan patterning.
T/t (Ticked): Ticked patterning with pigmented spots in white areas of the body. Commonly seen on the legs and muzzle.
Tr/t (Roan): Roan patterning with a mixture of white and pigmented hairs on supposedly white areas of the body.
T/T (Ticked): Ticked patterning with pigmented spots in white areas of the body. Commonly seen on the legs and muzzle.
Tr/T (Roan/Ticked): Ticked and roan patterning with pigmented spots on the legs and muzzle together with white and pigmented hairs on the white areas.
Tr/Tr (Roan): Roan patterning with a mixture of white and pigmented hairs on supposedly white areas of the body.
Inconclusive: For this test we use a specific reporting scheme based on scientific literature. It is therefore possible to receive an inconclusive result (Inconclusive) which means that the dog's coat colour might not be associated with the Clear, Ticked or Roan coat colour phenotype.

H326 - Coat Colour S-locus (Piebald)

Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H354 - Coat Colour Panda White Spotting

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Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H848 - Improper Coat/Furnishings

Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H765 - Hair Length - 1

Information about the test for hair length:
- L/L: The test result shows that the animal is homozygous for the mutation which is suggested to cause long-haired coat.
- S/L: The test result shows that the animal is carrier of the mutation for long-haired coat.
- S/S: The test result shows that the animal does not carry the mutation which is suggested to cause long-haired coat.

The phenotype is subject to allelic heterogeneity, i.e. several different mutations on this gene can cause the same trait. Therefore, a dog that tests as Shorthaired (S/S) or Carrier (S/L) for this specific mutation can still turn out to have the Long-Haired phenotype.
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H885 - Hair length - 2

Information about the test for hair length:
- L/L: The test result shows that the animal is homozygous for the mutation which is suggested to cause long-haired coat.
- S/L: The test result shows that the animal is carrier of the mutation for long-haired coat.
- S/S: The test result shows that the animal does not carry the mutation which is suggested to cause long-haired coat.

The phenotype is subject to allelic heterogeneity, i.e. several different mutations on this gene can cause the same trait. Therefore, a dog that tests as Shorthaired (S/S) or Carrier (S/L) for this specific mutation can still turn out to have the Long-Haired phenotype.
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H664 - Hair Length - 3

Information about the test for hair length:
- L/L: The test result shows that the animal is homozygous for the mutation which is suggested to cause long-haired coat.
- S/L: The test result shows that the animal is carrier of the mutation for long-haired coat.
- S/S: The test result shows that the animal does not carry the mutation which is suggested to cause long-haired coat.

The phenotype is subject to allelic heterogeneity, i.e. several different mutations on this gene can cause the same trait. Therefore, a dog that tests as Shorthaired (S/S) or Carrier (S/L) for this specific mutation can still turn out to have the Long-Haired phenotype.
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H665 - Hair Length - 4

Information about the test for hair length:
- L/L: The test result shows that the animal is homozygous for the mutation which is suggested to cause long-haired coat.
- S/L: The test result shows that the animal is carrier of the mutation for long-haired coat.
- S/S: The test result shows that the animal does not carry the mutation which is suggested to cause long-haired coat.

The phenotype is subject to allelic heterogeneity, i.e. several different mutations on this gene can cause the same trait. Therefore, a dog that tests as Shorthaired (S/S) or Carrier (S/L) for this specific mutation can still turn out to have the Long-Haired phenotype.

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Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H666 - Hair Length - 5

Information about the test for hair length:
- L/L: The test result shows that the animal is homozygous for the mutation which is suggested to cause long-haired coat.
- S/L: The test result shows that the animal is carrier of the mutation for long-haired coat.
- S/S: The test result shows that the animal does not carry the mutation which is suggested to cause long-haired coat.

The phenotype is subject to allelic heterogeneity, i.e. several different mutations on this gene can cause the same trait. Therefore, a dog that tests as Shorthaired (S/S) or Carrier (S/L) for this specific mutation can still turn out to have the Long-Haired phenotype.
Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H910 - Coat Colour Saddle tan vs black-and-tan IMPROVED

Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H921 - Curly Coat (c1) - Dog

Detailed information about Coat Colours and Coat Variation is available at www.combibreed.com.
Direct link: https://www.combibreed.com/blog/knowledgebase/about-dogs/

H972 - Recessive Hypotrichosis – American Hairless Terr

Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this specific variant. The animal will not develop the described clinical features due to this variant. When used in breeding, a healthy allele will be passed to all offspring.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal will not develop the described clinical features due to this variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will most likely develop the described clinical features due to this variant. When used in breeding, all offspring will receive an affected allele.

H973 - Recessive Hypotrichosis – Scottish Deerhound

Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this specific variant. The animal will not develop the described clinical features due to this variant. When used in breeding, a healthy allele will be passed to all offspring.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal will not develop the described clinical features due to this variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will most likely develop the described clinical features due to this variant. When used in breeding, all offspring will receive an affected allele.

H299 - Coat Type SD-Locus (Shedding MCR5)

Explanation about the result:
NORMAL: The animal has two normal alleles and is therefore not affected by this variant. The animal will not be influenced by this specific variant.
CARRIER: The animal is a carrier; it has one normal and one affected allele. The animal may be influenced by the specific variant. In breeding, there is a 50% chance for each offspring that it will receive an affected allele.
AFFECTED: The animal is affected; it has two affected alleles. The animal will likely be affected by this specific variant. In breeding, an affected allele will be passed down to all offspring.

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DISCLAIMER: This variant is of multifactorial origin, meaning that the clinical features are determined a combination of genetic factors as well as the environment.

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