



dr. van haeringen laboratorium b.v.

a VHLGenetics company

LABOCOR, S.L.  
Alamillo 41  
ES-28770 COLMENAR VIEJO (MADRI  
SPAIN  
Customer number 23465

## Analysis Certificate

### Animal data

Name:  
Date of birth: . .  
Sexe:  
Reg. nr.: MACHO AMARILLO 27-5  
Breed: Unknown

### Sample data

VHL\_ID: H317860  
Test ID-nr: 342240 1  
Material: Swab

### H416 - Congenital Hypothyroidism (CHG) 1 - Date of test: 11.06.2019

Testresult: NORMAL

### H421 - Hiplaxity 2 - Date of test: 11.06.2019

Testresult: HL/HL

### H427 - Myotubular myopathy 1 - Date of test: 11.06.2019

Testresult: NORMAL

### H432 - Tremor X-linked - Date of test: 11.06.2019

Testresult: NORMAL

### H456 - SCID 2 - Date of test: 11.06.2019

Testresult: NORMAL

### H717 - PFK Test - Date of test: 11.06.2019

Testresult: NORMAL

### H736 - Fucosidosis - Date of test: 11.06.2019

Testresult: NORMAL

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**H740 - PDP1 Deficiency - Date of test: 11.06.2019**

Testresult: NORMAL

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**H741 - Piruvatekinase Def. - Date of test: 11.06.2019**

Testresult: NORMAL

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**H811 - Hyperuricemia (HUU) - Date of test: 11.06.2019**

Testresult: NORMAL

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**H868 - GR-PRA1 - Date of test: 11.06.2019**

Testresult: NORMAL

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**H873 - Ichthyosis 2 - GR - Date of test: 11.06.2019**

Testresult: NORMAL

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**H919 - Hiplaxity 1 - Date of test: 11.06.2019**

Testresult: HL/HL

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**H486 - Epilepsy, BFJ - Date of test: 11.06.2019**

Testresult: NORMAL

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**H510 - Skeletal Dysplasia 2 (SD2) - Date of test: 11.06.2019**

Testresult: NORMAL

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**H749 - Centronucleaire Myopathie (CNM) - Date of test: 11.06.2019**

Testresult: NORMAL

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**H360 - Gallbladder Mucocele - Date of test: 11.06.2019**

Testresult: NORMAL

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**H698 - Narcolepsy Labrador Retriever - Date of test: 11.06.2019**

Testresult: NORMAL

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**H375 - Dog\_Skin Fragility - Date of test: 11.06.2019**

Testresult: NORMAL

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**H473 - GR-PRA2 - Date of test: 11.06.2019**

Testresult: NORMAL

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**H511 - rcd4-PRA - Date of test: 11.06.2019**

Testresult: NORMAL

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**H324 - FBN2 - Date of test: 11.06.2019**

Testresult: STILL IN TEST

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W.A. van Haeringen, PhD  
Executive Director

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#### H416 - Congenital Hypothyroidism (CHG) 1

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### H421 - Hiplaxity 2

The disease is of multifactorial origin, which means that the symptoms are a combination of genetic factors as well as the environment.

This marker is part of a panel of genetic factors influencing hip laxity. For each genetic factor of a multifactorial disease, the desirable genetic variant is indicated as 'N/N'. Animals carrying one copy of the undesirable genetic variant are indicated as 'N/HL', whereas animals carrying two copies of the undesirable genetic variant are indicated as 'HL/HL'.

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#### H427 - Myotubular myopathy 1

Explanation about the result for females:

**NORMAL:** The animal is free and has two healthy alleles. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

Explanation about the result for males:

**NORMAL:** The animal is free and has one healthy allele and the sex chromosome Y. It cannot spread the disease in the population.

**AFFECTED:** The animal is affected and has one mutant (disease) allele and the sex chromosome Y. When used in breeding, all male offspring will receive the sex chromosome Y. All female offspring will receive the mutant (disease) allele.

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#### H432 - Tremor X-linked

Explanation about the result for females:

**NORMAL:** The animal is free and has two healthy alleles. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

Explanation about the result for males:

**NORMAL:** The animal is free and has one healthy allele and the sex chromosome Y. It cannot spread the disease in the population.

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**AFFECTED:** The animal is affected and has one mutant (disease) allele and the sex chromosome Y.  
When used in breeding, all male offspring will receive the sex chromosome Y.  
All female offspring will receive the mutant (disease) allele.

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#### H456 - SCID 2

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### H717 - PFK Test

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### H736 - Fucosidosis

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### H740 - PDP1 Deficiency

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### H741 - Piruvatekinase Def.

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H811 - Hyperuricemia (HUU)

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H868 - GR-PRA1

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H873 - Ichthyosis 2 - GR

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H919 - Hiplaxity 1

The disease is of multifactorial origin, which means that the symptoms are a combination of genetic factors as well as the environment.

This marker is part of a panel of genetic factors influencing hip laxity. For each genetic factor of a multifactorial disease, the desirable genetic variant is indicated as 'N/N'. Animals carrying one copy of the undesirable genetic variant are indicated as 'N/HL', whereas animals carrying two copies of the undesirable genetic variant are indicated as 'HL/HL'.

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### H486 - Epilepsy, BFJ

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H510 - Skeletal Dysplasia 2 (SD2)

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill

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due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H749 - Centronucleaire Myopatie (CNM)

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H360 - Gallbladder Mucocele

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will also become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H698 - Narcolepsy Labrador Retriever

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H375 - Dog\_Skin Fragility

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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### H473 - GR-PRA2

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

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**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### **H511 - rcd4-PRA**

Explanation about the result:

**NORMAL:** The animal is free and has two healthy alleles. When used in breeding, this animal will not become ill due to the disease. It cannot spread the disease in the population.

**CARRIER:** The animal is carrier and has one healthy and one mutant (disease) allele. When used in breeding, 50 percent of the offspring will receive the disease allele. Carriers will not become ill.

**AFFECTED:** The animal is affected and has two mutant (disease) alleles. When used in breeding, all offspring will receive the mutant allele from this animal. Affected animals will become ill.

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#### **H324 - FBN2**

The disease is of multifactorial origin, which means that the symptoms are a combination of genetic factors as well as the environment.

This marker is part of a panel of genetic factors influencing hip laxity. For each genetic factor of a multifactorial disease, the desirable genetic variant is indicated as 'N/N'. Animals carrying one copy of the undesirable genetic variant are indicated as 'N/HL', whereas animals carrying two copies of the undesirable genetic variant are indicated as 'HL/HL'.

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