

Genetic tests in Leonberger dogs

(October 2020)

Genetic disorders of Leonbergers:

Four disorders were genetically characterized by the Universities of Bern (CH) and Minnesota (USA), and genetic tests were developed. These include three forms of *polyneuropathy* (**LPN1**, **LPN2**, **LPPN3**), disease of the peripheral nervous system, and *leukoencephalomyelopathy* (**LEMP**), disorder of the central nervous system.

The genotypes are reported for **each disorder individually** as follows:

N/N (clear of the mutation), **D/N** (heterozygous carrier), and **D/D** (homozygous affected dog).

Further information and breeding recommendations can be found at www.genetics.unibe.ch.

Sand coat color:

Gene test for a coat color dilution at the **I (intensity)** locus characterized by the Universities of Bern (CH) and Rennes (F) identifies the sand-colored Leonbergers and heterozygous carriers. This trait follows autosomal recessive inheritance with estimated variant allele frequency of 11.5% in Leonbergers and is **not related to any disease**. The genotypes are reported as follows: **I/I** (sable coat color), **I/i** (heterozygous carrier, sable coat color), and **i/i** (sand coat color).

For the genetic testing a **single blood sample per dog (1-5 ml EDTA blood)** is required and sufficient to perform the detection of all causative variants. Blood samples must be labeled properly. Please, use an **individual order form for each single dog** and send them together with the samples in a padded envelope without cooling to:

In case of questions please contact:

Prof. Dr. Cord Drögemüller

e-mail: cord.droegemueller@unibe.ch

phone: **+41 75 500 08 09**

**Institute of Genetics
Leonberger-Gentest
Bremgartenstrasse 109a
CH-3012 Bern**

Price: 1 test **100** CHF/EUR, 2 tests **150** CHF/EUR, 3 tests **175** CHF/EUR,
4 tests **200** CHF/EUR, 5 tests **225** CHF/EUR.

Once the sample arrives, we will send an invoice with payment instructions (including details as IBAN, BIC) by e-mail. After the receipt of your payment our lab will perform the tests and send the results **by e-mail as PDF file**. Please note, usually it takes 2-6 weeks until a result is obtained.

Test (please check): LPN1 ☐ LPN2 ☐ LPPN3 ☐ LEMP ☐ sand coat color ☐

Name & Kennel

Registry ID **Chip No.**

Date of birth **male** ☐ **female** ☐ **coat color**

Owner name

Address

ZIP/City/Country

E-mail

Owner's declaration of consent

I agree to genetic testing of the animal indicated above. I also agree that the test results and sample material may be used for further scientific research. The leftover sample material will belong to the University of Bern.

Date **Owner's signature**

Confirmation of correct sampling and animal identity

Date **Veterinarian (stamp & signature)**