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Result certificate #153748

Detection of mutations in LHX3 gene causing pituitary dwarfism in German shepherds, Saarloos and Czechoslovakian Wolfdogs

Customer: Radek Kunc, Brňany 31, 41201 Litoměřice, Czech Republic

Sample:
Sample: 20-19004
Date received: 09.07.2020
Sample type: blood

Information provided by the customer
Name: Legenda Moai Šedý poklad
Breed: Czechoslovakian Wolfdog
Microchip: 203 094 100 007 556
Reg. number: ČMKU/CSV/5718/19
Date of birth: 09.03.2019
Sex: female
Date of sampling: 07.07.2020
The identity of the animal has been checked by MVDr. Petr Petráš, KVL 0191

Result: Mutation was detected in heterozygous status (N/P) (c.622-37-31del)

Legend: N/N = wild-type genotype. N/P = carrier of the mutation. P/P = mutated genotype (individual will be most probably affected with the disease). (N = negative, P = positive)

Explanation

Presence or absence of mutations c.622-37-31del a c.545_547dupACA in gene LHX3 causing pituitary dwarfism in German shepherds, Saarloos Wolfdogs and Czechoslovakian Wolfdogs were tested. The disease is characterised by degeneration of hypophysis (pituitary) resulting in deficiency of pituitary hormones. Common clinical manifestations are growth retardation, retention of secondary hairs (puppy coat) with signs of alopecia. The affected dogs can have normal size during the first weeks of their lives. Between the 3rd and the 4th month of age the differences are already evident.

Mutations that cause pituitary dwarfism are inherited as an autosomal recessive trait. That means the disease affects dogs with P/P (positive/positive) genotype only. The dogs with N/P (negative/positive) genotype are considered carriers of the disease (heterozygotes), they are healthy but they can transmit the mutation on their offspring. In offspring of two heterozygous animals following genotype distribution can be expected: 25 % N/N (healthy non-carriers), 50 % N/P (healthy carriers) and 25 % P/P (affected).

Method: SOP171-dwarfism, fragment analysis

Date of issue: 10.07.2020
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Approved by: Mgr. Markéta Dajbychová, Deputy Laboratory Manager

verified and certified document
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