

## **Pituitary Dwarfism of German Shepherd**

A growth retardation genetic disease prevented thanks to a DNA test

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*Pituitary Dwarfism leads to a growth retardation. Around 11% of German Shepherd are carriers of the gene responsible for the disease. A reliable DNA test can screen stud dogs and brood bitches, in order to adapt matings and avoid birth of affected puppies and spread of the disease in the breed.*

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### **An incapacitating hereditary disease**

Pituitary Dwarfism leads to a growth retardation. The first symptoms appear from only several months after birth by a small size, lack of adult coat, hair loss. The affected dog isn't a dwarf variety of German Shepherd but an animal suffering from a hormone deficiency associated with underdevelopment of the pituitary gland, which causes various health problems and a limited life expectancy.

### **A fairly common disease**

About 11% of German Shepherd in Europe are carriers of the genetic mutation responsible of Pituitary Dwarfism. A breeder can mate without noticing a male « carrier » and a female « carrier » and produce a litter containing affected puppies.

A dog « carrier » of the mutation will not develop the disease but transmits it to 50% of the puppies. A stallion « carrier » of the mutation which is used a lot for reproduction, spreads the disease through the breed and helps to increase the frequency of the mutation and multiply the number of affected dogs.

### **A preventable disease**

A puppy can be affected if his two parents are carriers of the mutation. Breeders unaware of Pituitary Dwarfism can mate stud dogs and brood bitches carriers of the mutation and produce affected puppies which will not develop the disease before the age of 6 months.

A DNA test called NAH, can detect Pituitary Dwarfism of the German Shepherd with a reliability above 99%

### **Avoid the birth of affected puppies**

In order to secure its kennel and avoid the risk of production of affected puppies, the breeder must screen its breeding dogs thanks to the NAH DNA test.

When acquiring a puppy for breeding or when a stud dog is used for a mating, the breeder verifies the genetic status of the dog for Pituitary Dwarfism, asking for the result of the NAH DNA test.

### **A DNA test easy to perform**

The veterinarian performs a simple cheek swab and sends it to the laboratory. The result, delivered within few days, indicates if the tested dog is clear, carrier or affected for Pituitary Dwarfism. A genetic certificate displaying the result must be used as a guarantee for a mating or to justify the sale of puppies clear of Pituitary Dwarfism.

The veterinarian who notices early growth retardation in a young German Shepherd puppy can process a DNA test to confirm or refute the diagnosis of Pituitary Dwarfism. If the dog is affected, parents have to be screened.

A breeder who knows the genetic status of the dog can select its breeding dogs, adapt matings, avoid the birth of affected puppies and limit the spread of this incapacitating disease in the breed.

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