

## **Hereditary Cataract of Australian Shepherd**

A hereditary ocular disease prevented thanks to a DNA test

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*Hereditary Cataract leads to a progressive vision loss. About 23% of Australian Shepherds 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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### **A incapacitating hereditary disease**

Hereditary Cataract leads to an opacity of Cristallin which causes a progressive vision loss and can lead to a complete blindness. The German Shepherd presents 2 types of cataracts : a juvenile type rarely evolving towards a vision loss ; and a severe type which affects acuity and can lead to a complete blindness

### **A frequent disease**

Around 23% of Australian Shepherds are carriers of the genetic mutation responsible of hereditary cataract.

The dog that carries a single mutation (heterozygous) can develop a mild form of Cataract (co-dominant disease). The dog that carries 2 mutations (mutated homozygous) will develop in most of the cases a severe form of the disease. In both of the cases, the stud dog is transmitting the disease to its progeny.

A stud dog, carrier of the mutation (either heterozygous either mutated homozygous) 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**

Breeders unaware of Hereditary Cataract can mate unknowingly stud dogs carrying the mutation (either heterozygous either mutated homozygous) which haven't developed any symptom and produce affected puppies.

A DNA test called HSF4-A, can detect Hereditary Cataract of Australian 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 by a severe form of Hereditary Cataract, the breeder must screen its breeding dogs thanks to the 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 Australian Shepherd asking for the result of the HSF4-A DNA test. As the frequency of this disease is quite important and in order to preserve the genetic pool inside the breed, it is strongly advised to keep dogs carriers (heterozygous) for reproduction purposes, if mated with clear dogs.

### **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 Hereditary Cataract. A genetic certificate displaying the result must be used as a guarantee for a mating or to justify the sale of puppies clear of Hereditary Cataract.

The veterinarian who notices early ocular issues in a young Australian Shepherd can process a DNA test to confirm or refute the diagnosis of Hereditary Cataract. If the dog is affected, parents have to be screened as well.

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 ocular disease in the breed.

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