LABOKLIN
LABOR FÜR KLINISCHE DIAGNOSTIK GMBH & CO. KG
NEWSLETTER 3/2012

Based on numerous, long-time cooperations with international research groups we have been able to establish new and important genetic tests and have implemented them into our repertoire.

Congenital Hypothyroidism (with goiter) (CHG) in Spanish Water Dogs

The term hypothyroidism refers to all types of lowered thyroid function regardless of the cause of disease. The symptoms of hypothyroidism are diverse. These include general symptoms such as lethargy and weight gain, additionally, heart, skin and nerves can be affected. In the Spanish Water Dog hypothyroidism can be genetic. In this case the mode of inheritance is autosomal recessive. Therefore, only dogs that have the mutation on both alleles show clinical signs. These dogs have a very short life expectancy and usually die as puppies. Using genetic tests, it is now possible to identify clinically sound carriers and breed them with non-carriers only.

Hereditary Necrotizing Myelopathy (ENM) in Dutch Kooiker

In addition to degenerative myelopathy (DM), hereditary necrotizing myelopathy (ENM) in the Dutch Kooiker breed has also been described. ENM is a genetic disease that leads to progressive degeneration of the nervous system, especially, affecting the white matter of the spinal cord in the cervical region. This causes complete paralysis of the body, starting in the hind legs, which ultimately leads to death. The first symptoms are noticeable by the 12th month of life. This disease is untreatable. Since it has a autosomal recessive mode of inheritance, the use of marker tests (and mindful breeding) can dramatically reduce the probability of sick animals being born.

Pug Dog Encephalitis (PDE)

Encephalitis in the pug is a hereditary autoimmune disease that is characterised by a severe inflammation of the central nervous system. It leads to an overreaction, of genetic origin, of the immune system where the immune cells damage the neurons of the brain. The first signs of disease in affected dogs normally appear between six months and three years of age. These manifest as disorientation, convulsions and collapse. Ill dogs tilt or shake their head, tremble, display a wobbly gait and stumble or fall often. It can also be observed that affected dogs constantly run in circles or scratch their head in attempt to relieve the pressure and pain. Advanced symptoms include total confusion and coma. Generally, the dog dies within three to six months after the onset of symptoms. Genetic tests determine the risk factor for disease occurrence.

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Ichthyosis in Golden Retrievers – now NEW at LABOKLIN

Ichthyosis is an inherited disorder of the normal shedding of the skin due to a change in the keratinization process. The name ichthyosis is derived from the greek word for fish (Ichthys) due to the fish-like scales of various size and pigmentation that shed from the skin of affected dogs. Additionally, the skin itself may show various degrees of pigmentation. Initial symptoms appear just after a few weeks of life. So far there is no cure for the disease, but scale formation may decrease with age. Targeted prevention of breeding carriers is possible using genetic testing.

Progressive Retinal Atrophy (rcd4-PRA) in Irish Setters and Gordon Setters

PRA stands for a group of inherited disorders of the photoreceptors of the retina that are caused by different mutations in various breeds of dogs. As of yet the so called rod-cone degeneration type 1 (rcd1) was known in Irish Setters. Now, the new gene test enables the detection of the rod-cone degeneration type 4 which has an autosomal recessive mode of inheritance. The causative mutation of rcd4-PRA occurs with high prevalence in the Irish Setter breed. Rcd4-PRA can also affect the Gordon Setter, Australian Cattle Dog, English Setter, Irish Red & White Setter, Polski Owczarek Nizinny and Small Munsterlander.

The rcd4-PRA is also known as Late-Onset-PRA and doesn't manifest until after the second year of life. First signs of this disease is a reported night blindness of affected dogs. Due to the late onset of clinical symptoms gene tests are not only suitable for the identification of carrier animals, but of affected animals as well.

Skeletal Dysplasia 2 (Dwarfism) in Labrador Retrievers

Osteochondrodysplasia is an inherited disease in Labradors that leads to a premature growth standstill of the long bones. Unlike other forms of dwarfism, this results in "disproportionate" dogs. These can be recognised by their shortened forelimbs and overbuilt hind legs with normal length and depth of the body. According to current knowledge, affected dogs show no other health problems such as malformed genitals or neural diseases.

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