Newsletter genetic | No. 2 / 2013
A service by LABOKLIN - Laboratory for clinical diagnostics
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LABOGEN

genetic news

LABOKLIN now Optigen agency

Through intensive negotiations we were able to achieve the status of **Optigen agency**. This will allow **sample run times** for genetic tests carried out by Optigen (eg CEA) to be significantly reduced. In the future, you will receive the results of these tests much faster.

Late onset ataxia in Parson Russell Terriers

Dogs affected by late onset ataxia (LOA) suffer from steadily deteriorating coordination problems of the musculoskeletal system and loss of balance. Initial clinical symptoms are usually seen starting at 6-12 months of age. The disease can be genetic and transmitted as an autosomal recessive trait to offspring. Using a new **genetic test** this form of ataxia in Parson Russell Terriers can be detected. Thus, through selective breeding programs it is possible to avoid births of affected dogs.

Progressive retinal atrophy (rcd4-PRA) found in several new breeds

PRA is a group of inherited photoreceptor disorders in the retina which are caused by various mutations in different breeds. rcd4-PRA manifests no earlier than in the second year of life and is, therefore, also referred to as **late onset PRA (LOPRA)**. It is inherited as an **autosomal recessive** trait. An early sign of this form of PRA is night blindness in affected dogs.
Thus far, the genetic predisposition for this disease could be detected in the Irish Setter and Gordon Setter. The causative mutation of rcd4-PRA has also been found in the following breeds: **Australian Cattle Dog, English Setter, Irish Red & White Setter, Small Munsterlander, Polish Lowland Sheepdog (PON)** and **Tibetan Terrier**. LABOKLIN now provides you with genetic testing to detect the genetic predisposition for rcd4-PRA in these breeds.

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Primary lens luxation (PLL) - Genetic testing for other breeds available

In another genetically caused eye disorder, primary lens luxation (PLL), the underlying mutation has been found in further breeds. This disease, causing injury to the eye, has been known for over 75 years to be hereditary in different dog breeds. In the case of the genetic form of PLL, changes in the structure of the zonular fibers are present even at the age of 20 months. Through these changes, the lens shifts or dislocates completely. This leads to painful glaucomas and can end in complete blindness. The dislocation typically occurs between three and eight years of age, an age at which offspring may very well have been produced, thus having already passed down the genetical predisposition.
The causative mutation of PLL is inherited as an autosomal recessive trait. However, affected dogs with heterozygous genotype have occasionally been identified. It is believed that approximately 2-10% of heterozygous animals (carriers) contract PLL during their lifetime.
Genetic testing is standardly performed by LABOKLIN for the following breeds: **American Eskimo Dog, American Hairless Terrier, Australian Cattle Dog, Chinese Crested, Chinese Foo Dog, Jack Russell Terrier, German Hunt Terrier, Lakeland Terrier, Lancashire Heeler, Lucas Terrier, Miniature Bull Terrier, Parson Russell Terrier, Patterdale Terrier, Rat Terrier, Sealyham Terrier , Tenterfield Terrier, Tibetan Terrier, Toy Fox Terrier, Volpino Italiano, Welsh Terrier and Westphalian Terrier**

Hair Length

Dog fur has various textures for the different breeds and has diverse structure as well, such as rough, smooth, long or short and comes in a variety of colors. For many dog lovers, the appearance of the fur is the major external feature that leads to the final decision when buying a dog. In particular, the hair length is what lends many breeds to their **characteristical appearance**.
For most registered breeds the **breed standard** only allows one hair length, i.e. the hair length is considered an exclusionary feature in breeding.
In some breeds (e.g. Welsh Corgi, German Shepherd, Collie, Border Collie and Dachshund) it has been demonstrated that a single mutation in the gene FGF5 controls the expression of the hair length. A study by the University of Veterinary Medicine Hannover has recently shown that there are **four other mutations in the gene FGF5** which lead to the expression of long hair in the following breeds: **Samoyed, Eurasians, Akita Inu, Siberian Husky** and **Afghan**. LABOKLIN now also offers genetic testing for hair length in these breeds.
Using DNA tests one can reliably distinguish carriers (Ll) from homozygous short-haired (LL) animals and thus avoid the undesirable occurrence of long-haired puppies.

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