- **We also offer DNA tests for the following conditions:**

  - **Alpha-Mannosidosis (AMD)** *in Persian.*
  - **Congenital Myasthenic Syndrome (CMS)** *in Devon Rex and Sphynx .*
  - **Gangliosidosis (GM1 / GM2)** *in Balinese, Burmese, Javanese, Korat, Oriental Shorthair, Peterbald, Seychellois, Siamese, Thai and Tonkinese.*
  - **Mucopolysaccharidosis Type VI and Type VII (MPS6 /MPS7)**.
  - **Hypotrichosis and Short Life Expectancy** *in Birman (Sacred cat of Burma)*
  - **Myotonia Congenita (Fainting Goat)**
  - **Primary Congenital Glaucoma (PCG)** *in Siamese.*
  - **Osteochondrodysplasia (Scottish Fold Osteodystrophy)**

- **Coat Colours and traits:**

  - Albino, Charcoal in Bengal, Dilution, Chocolate and Cinnamon, Snow in Bengal, Agouti (Tabby), Amber in Norwegian Forest, Colourpoint Siamese and Burmese, Doiminant White (White spotting), Russett in Burmese
  - **Coat length**
  - **Curly** Coat in selkirk Rex
  - **Sphynx** (Hairlessness) and Devon Rex (Curly)

DNA bundles *NEW*

- **Feline 8 Health DNA test bundle :**
  HCM + HCR + GSD4 + PKD + rdAc-PRA + PK-Deficiency + SMA + our ***new enhanced*** Genetic Blood Groups.
  ..... **£79.95 incl VAT**

- **Feline Coat Colour DNA test bundle:**
  Agouti + Chocolate + Cinnamon + Colour point (Siam / Mink / Burma) + Dilution
  ..... **£79.95 incl VAT**

- **Bengal Coat Colour DNA test bundle:**
  Charcoal + Chocolate + Cinnamon + Snow + Dilution
  ..... **£79.95 incl VAT**

- **DNA Profiling and Parentage.**

- **Breed Identification**

visit our website: www.laboklin.co.uk

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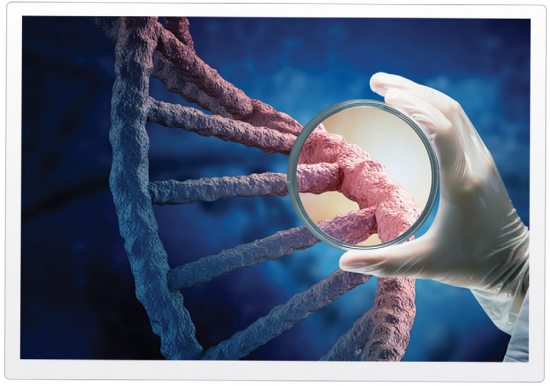

- ✓ Genetic diseases
- ✓ Genetic blood groups
- ✓ Coat colours
- ✓ DNA ID and parentage
- ✓ ISO 17025 Accredited lab
- ✓ Excellent customer service

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GENETICS

- are your cats genetically healthy?
- do they carry inherited diseases?
- do you know their blood groups?
- are you curious about the coat colour of your new kittens?
- we offer extensive range of DNA tests covering almost all known cat breeds.

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- **new enhanced test for Genetic Blood Groups** in all breeds except Domestic Shorthair. Laboklin has recently patented a new improved genetic test for detecting blood groups in cats. The new test is valid for more breeds than before, it can detect more 'b' allele variants than ever before, and can check for the 'c' allele which is resposnible for the AB serotype in Ragdoll and Bengal cats.

  The AB system is the major blood group system in domestic cats. The common blood types are A and B. Cats with blood type B have anti-A antibodies at a high titer and cats with blood type A have anti-B antibodies at a low titer. Cats with the rare AB blood type do not have anti-A or anti-B antibodies. These natural antibodies can lead to blood group incompatibility that can be fatal. Early symptoms include breathing difficulties, vomiting and agitation. Neonatal isoerythrolysis occurs when a female cat with blood type B is bred to an A type male cat and the A type kitten absorb the anti-A antibodies from the breast milk. The recent Laboklin study identified a number of new variants involved in determining the different blood groups in cats. Our Genetic Blood Group DNA test has now been updated with the new variants and as a result we can now screen more breeds. The updated test can detect the 'b' mutation which is reposnible for blood group 'B' more accurately than before and in more breeds, and the 'c' mutation which is repsonsible for blood group 'AB' in Ragdoll and Bengal can now be detected. The new test is available for ordering and it is already included in Laboklin feline 8 test DNA bundle.

- **Hypertrophic Cardiomyopathy (HCM)** in *Main Coon and Ragdoll.* HCM is one of teh most common heart diseases in cats. HCM causes the muscular walls of a cat's heart to thicken, and this decreases the efficiency of the heart function and can sometimes lead to symptoms in other parts of the body. In affected cats, the the heart's left ventricle (its primary "pump muscle") is thickened and this makes the volume of the heart chamber smaller and leads to abnormal relaxation of the heart muscle. These changes can cause the heart to beat rapidly, resulting in increased oxygen usage and possibly to oxygen starvation of the heart muscle, which may cause heart cells to die off, worsening heart function and leading to the development of arrhythmias (in which the heart beats too rapidly, too slowly, or with an irregular rhythm).In addition to these difficulties, less efficient blood pumping may also lead to a backup of blood to the other chambers of the heart and to the lungs, which may contribute to the development of congestive heart failure or the formation of blood clots in the heart.

- **Cystinuria (CY)** Cystinuria is an inherited metabolic disease that is relatively common in dogs but rare in cats. The condition is characterized by defective amino acid reabsorption, leading to the formation of cystine stones in the kidney, ureter and the bladder (cystine urolithiasis). This can lead to urinary obstruction.

- **Glycogen storage disease type IV (GSD IV)** *Norwegian Forest Cat.* GSD IV is an inherited abnormality of glucose metabolism. Normally, excess glucose is stored in many tissues as glycogen. If energy is needed, glucose molecules are removed from glycogen. The ability to add and remove glucose molecules from glycogen efficiently is dependent on its highly branched structure. The glycogen branching enzyme (GBE) is an enzyme of glycogen synthesis necessary to produce the branching structure. Deficiency of GBE activity leads to abnormal glycogen accumulation in myocytes, hepatocytes, and neurones, causing variably progressive, benign to lethal organ dysfunctions. Most affected kittens die at or soon after birth, presumably due to hypoglycemia. Survivors of the perinatal period appear clinically normal until the onset of progressive neuromuscular degeneration at about 5 months of age.

- **PKD (Feline Polycystic Kidney Disease)** in *Angora, British Shorthair, Birman (Sacred cat of Burma), British Longhair, Chartreux, Colourpoint, Exotic Shorthair, Persian, Persian Ragdoll, Russian Blue, Scottish Fold, Selkirk Rex.* Polycystic kidney disease is an inherited disorder in which small, closed, liquid-filled cysts develop in the tissue of the feline kidney. These sacs tend to multiply in number and grow over time, eventually disrupting normal kidney tissue and often leading to potentially fatal kidney failure. PKD is the result of a single, autosomal dominant gene abnormality. This means that every cat with the abnormal gene will have PKD.

- **Progressive Retinal Atrophy (pd-PRA, b-PRA, rdAc-PRA and rdy-PRA)** Progressive Retinal Atrophy is the term used to describe a group of genetic disorders that result in degeneration and atrophy of the eye's retina, which is the light-sensitive layer of cells at the back of the eye. This can lead to a progressive decline in the quality of eye sight and vision and in some cases can lead to blindness. The human equivalent of this disease is known as 'retinitis pigmentosa'. Owners may become aware of this condition when vision becomes significantly impaired and, for example, the cat may start to become disorientated or bump into objects. There are a number of genetic mutations, which can cause PRA in the different breeds. At Laboklin we can test for the following mutations: pd-PRA, b-PRA, rdAc-PRA and rdy-PRA.

- **Pyruvate Kinase Deficiency (PK Deficiency)** in *Abyssinian, Bengal, Domestic Longhair, Domestic Shorthair, Egyptian Mau, La Perm, Maine Coon, Norwegian Forest Cat, Ocicat, Savannah, Siberian, Singapura, Somali.* Pyruvate kinase deficiency is an inherited disease caused by a mutation in a gene that is responsible for producing the enzyme pyruvate kinase, which plays an important role in enabling cells including red blood cells to release the energy they need for normal function. Lack of this enzyme leads to impairment in the processes of the red blood cells and therefore they die prematurely. The lifespan of the red blood cells is significantly reduced, resulting in a reduction in the number of red blood cells in the circulation (anaemia). Affected cats commonly show external signs of anaemia before 3 years of age, but the severity and age of onset vary from very mild and barely noticed to severe. clinical signs include lethargy, weakness, diarrhoea, pale mucous membranes, lack of appetite, poor coat quality, weight loss and jaundice. Severe anaemia can be life threatening.

- **Spinal Muscular Atrophy (SMA)** in *Maine Coon.* Spinal Muscular Atrophy (SMA) is a genetic disease affecting the Maine Coon breed. Clinical signs include progressive muscle weakness and instability with unsteady gait and posture abnormalities due to loss of motor neurons in the lower spinal cord and atrophy of muscles in the hind limbs. Signs of SMA are noticed in affected kittens at about 3-4 months of age. The condition is neither painful nor fatal and affected cats can live a comfortable life indoors. The disease is inherited as an autosomal recessive trait, and therefore two copies of the mutation are required to produce the disease. SMA affects both males and females.

- **Feline Autoimmune Lymphoproliferative Syndrome (ALPS)** Feline Autoimmune Lymphoproliferative Syndrome (ALPS) is an inherited condition seen in British shorthair (BSH) and BSH-cross breeds. The disease is caused by a mutation in the Fas ligand gene and it is characterized by build-up of lymph cells in the lymph nodes and the spleen leading to enlargement of these organs. Affected kittens appear normal at birth but start to show failure to thrive, lethargy, regenerative anemia, abdominal distension and marked generalized lymphadenopathy from 6-12 weeks of age. Affected cats are usually euthanised within about 4 weeks.

- **Hypokalemia (Familial Episodic Hypokalaemic Polymyopathy** in *Australian Mist , Burmese , Cornish Rex , Devon Rex , Singapura , Sphynx , Tonkines* Hypokalemia is a recessive genetic disorder characterised by episodes of skeletal muscle weakness which can affect all muscles of the cat body or it can be restricted to certain muscles. This is mostly seen in the neck muscles, but sometimes it affects the limbs only. As a result, affected cats may have problems with walking and holding their head correctly. The disease is not typically fatal and can usually be managed by adding potassium supplements to the diet.

- **Burmese Head Defect (BHD)** in *Burmese,* Burmese Head Defect is a craniofacial deformity caused by a genetic mutation which affects the development of the head and facial areas of the foetus during pregnancy. Head defect in affected cats is immediately pparent and severe from birth. Malformations include defects in the lower jaw and nostrils, degeneration of the eyes and ears and protrusion of the brain. Affected kittens can be born alive and require euthanasia as the condition is incompatible with normal or prolonged life.