



Purr to Science!

the Cat DNA bank

Rapid development of biomedical research in the past decade has revolutionized the research of genetic diseases. Thousands of disease genes have been discovered in various inherited disorders and that has resulted in the early diagnostics and prevention as well as better treatment of the diseases. This development was greatly boosted by the international Human Genome Project.

Recently, the genomes of several large mammals such as dog and cat have also been sequenced. This provides us a great opportunity to discover new genes, new genetic disorders and new treatments.

Purebred cats and dogs are a geneticist's dream because each pure breed represents a group of genetically similar animals that descended from only a few ancestors.

Since any traits associated with a given breed must result from a shared set of genetic determinants, these genes stand out much more obviously than they would in a population of unrelated, or genetically dissimilar, animals – such as humans.

Of the 200 inherited feline diseases found so far, over 50% are shared with humans. The coding sequences in human and feline genomes show an overall greater similarity to each other than to mouse coding sequences. Thus, cats can be used as models to understand many human diseases and to develop new more efficient and side-effect free therapies. Genetic analyses of cats will help to uncover the genes responsible for diseases such as cancer, immunodeficiencies, deafness, blindness, heart and metabolic diseases.



Norjalainen metsäkissa ry (The Finnish Norwegian Forest Cat Club) made a breed health survey that received more than 600 responses. The survey was expanded to cover all breeds and has by now received more than 10 000 responses. The survey deals with both permanent illnesses and acute diseases that the cat may already have recovered from.

The total number of cat DNA samples by the end of 2015 was 4475, out of which 581 are Norwegian forest cat samples. Norwegian forest cats currently have the largest number of samples in the bank!

The Finnish Cat gene bank already has thousands of cat DNA samples from both healthy and ill cats. The project will help researchers study hereditary illnesses in cats and to create gene tests that can be used in making breeding choices.

Cats genetic research is carried out by Professor of molecular genetics, Hannes Lohi, PhD, at laboratory Biomedicum Helsinki, University of Helsinki. Lohi's research group includes veterinary and medical faculty as well as Folkhälsan Research.

The research team hopes blood samples from abroad.

You can find English and Swedish sample form from website:
<http://www.kissangeenit.fi/tutkimuksesta/lomakkeet/>

Laboratory contacts for the supply of blood samples:

*Lohen tutkimusryhmä
Biomedicum 1 Helsinki, huone C514b
Haartmaninkatu 8
00290 Helsinki*

Further information about the cats genetic research:
director of the study, Professor Hannes Lohi: hannes.lohi@helsinki.fi



Photo: Kaisa Savolainen