Your cat’s genome may help you out in old age

The cat genome is out of the bag, and has already helped to pinpoint a gene involved in kidney disease. Cats may have beaten dogs on the Internet but felines have been a rare breed in genetics labs compared with their canine counterparts. Now, at last, cats are clawing their way into genomics.

At a meeting in San Diego, California, a close-knit group of geneticists unveiled the first results from an effort to sequence the genomes of 99 domestic cats. The work will benefit both humans and felines, the researchers say, by mapping the mutations underlying conditions that afflict the two species, such as kidney disease. “It’s a great time to be in cat genomics,” says William Murphy, a geneticist at Texas A&M University in College Station who is involved in the effort. Plummeting costs for DNA sequencing now make it possible to do genomics cheaply – and cat genomics, long under-funded compared with similar efforts in dogs, is benefiting, he says. “We’re finally at the point where we can do all sorts of things we wanted to do 5 or 10 years ago.”

Both cats and dogs offer insights into human disease, including those associated with old age. In 2004, a team led by geneticist Leslie Lyons of the University of Missouri in Columbia (and owner of two female cats, Withers and Figaro) discovered that mutations that cause polycystic kidney disease – a major cause of renal failure in older individuals – occur in the same gene in humans and cats 4. Cat versions of type 2 diabetes, asthma, retinal atrophy and numerous other conditions have close similarities to human disease. Cats can also become infected with a virus that is closely related to HIV and experience symptoms similar to those of people with AIDS.

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