

# Australians crack koala blueprint code

By Melissa Davey

Scientists have sequenced the genome of the koala, winning a global race to unravel its genetic blueprint.

The achievement, announced on Tuesday, will allow researchers to diagnose and treat two diseases threatening to wipe out the vulnerable species.

A leader of the research team, Professor of Microbiology Peter Timms from the Queensland University of Technology, said it was “only right” his team had achieved the breakthrough on the native Australian mammal before teams in the US and Europe.

“People probably assume that only Australia would want to sequence the koala genome, but in fact researchers in the US and Europe are sequencing and working on koala genomes as well,” Professor Timms, said. “We were keen to win the race and it’s only right that Australians should be at the forefront of it all.”

Professor Timms said sequencing the koala genome had unlocked many secrets of the animals’

immune system “virtually overnight” and allowed development of vaccines.

Koala populations in Queensland and NSW have been crippled by the sexually transmitted disease chlamydia. In Victoria, the numbers have been less affected. The disease has effects such as infertility and blindness. The koala retrovirus is also a big threat, a disease that integrates itself into koala DNA, causing tumours.

“We’re trialling chlamydia vaccines as we speak,” Professor Timms said. “While habitat destruction is an important aspect reducing koala numbers, despite everything we’ve tried, we can’t seem to turn that one around.

“But when it comes to diseases – we’ve actually got a chance here.”

Vaccines would initially be tested in koalas brought into animal welfare centres, he said.

Joint leader of the project from the Australian Museum Centre for Wildlife Genomics, Rebecca Johnson, said researchers now had an insight into

the “unusual and complicated life” of koalas.

“Until we started this project, there were about 100 koala genes known,” Dr Johnson said.

“Currently we are at about about 12,000 and we are now rapidly progressing to the complete set of 20,000 genes, which is roughly equivalent to humans.”

The majority of koala genomic sequences shared similarities with that of the Tasmanian Devil.



**BREAKTHROUGH:** From left, Peter Timms, Adam Polkinghorne, Rebecca Johnson and Mark Eldridge.