

Camel genome holds information about diabetes, high blood pressure

Sky-high blood glucose levels, a diet loaded with salt and a tendency to pack away fat sounds like a recipe for a health disaster in a human. But in a Bactrian camel, these are adaptations that may help it survive in some of the driest, coldest and highest regions of the world. Researchers in Mongolia and China have begun to unravel the genomic peculiarities behind the physiological tricks that camels use to survive in the harshest of conditions. In a paper published in *Nature Communications*, the scientists describe the draft genomes of wild and domesticated Bactrian camels.

The work shows that camels can withstand massive blood glucose levels owing in part to changes in genes that are linked to type II diabetes in humans. The Bactrians' rapidly evolving genes include some that regulate insulin signalling pathways, the authors explain. A closer study of how camels respond to insulin may help to unravel how insulin regulation and diabetes work in humans. "I'm very interested in the glucose story," says Brian Dalrymple, a computational biologist at the Queensland Bioscience Precinct in Brisbane, Australia.

The researchers also identified sections of the genome that could begin to explain why Bactrian camels are much better than humans at tolerating high levels of salt in their bloodstreams. In humans, the gene *CYP2J* controls hypertension: suppressing it leads to high blood pressure. However, camels have multiple copies of the gene, which could keep their blood pressure low even when they consume a lot of salt, suggest the authors of the latest work.

View the original article here: [Bactrian camel genome holds survival secrets](#)