

Mosquitoes engineered to resist dengue could become gene drive weapon against the deadly disease

Locked in a secure lab near Melbourne is the newest addition in the fight against dengue: genetically engineered [mosquitoes](#) that are resistant to all strains of the potentially deadly virus.

While there have been attempts to [genetically engineer mosquitoes](#) to make them resistant to the pathogen in the past, they have been limited to only a couple of the four strains, said study co-author Prasad Paradkar of CSIRO's Australian Animal Health Laboratory.

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The [international team](#), led by Anna Buchman and Omar Akbari of the University of California, San Diego, inserted proteins from the human immune system into the mosquitoes' DNA.

The antibody gene was activated as soon as the genetically engineered mozzies got a taste of infected blood.

"When the mosquito feeds on the infected person, this human protein becomes active in the mosquito and it neutralises the virus so the mosquitoes don't get infected," Dr Paradkar explained.

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These little blood suckers, with their cargo of dengue antibodies, are not likely to see the light of day any time soon.

"Before any sort of release, we have to do a number of experiments in the lab in regards to [the] safety and fitness of these mosquitoes."

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