

200 million people contract malaria each year. A genetically engineered vaccine might soon be coming

Malaria's catastrophic toll has inspired many attempts to create a viable vaccine, but the genetic complexity of the malaria parasite has made vaccine development difficult. Only one vaccine, the [RTS,S vaccine](#), has completed large-scale clinical testing and it only protected about 40% of recipients. In 2020, however, there have been three promising studies, each focusing on a novel approach to the malaria vaccine. These studies could open up new avenues in the fight against the disease.

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[One study] utilized genetic engineering, [homing in on a] species of the malaria parasite, *P. berghei*. This strain is not normally useful in vaccine discovery because it only affects mice. However, the researchers inserted the DNA for circumsporozoite. Circumsporozoite a protein found within *P. falciparum* that produces an immune response, into its genetic code. They inoculated 24 volunteers. While the vaccine did not fully protect from the virus, it did delay the detection of live parasites in the blood. The authors viewed the results positively, predicting that with some tweaks the vaccine could show greater efficacy. Many in the scientific community have applauded both of these trials. Despite falling short of delivering full immunity to malaria, as proof-of-principle studies, they illustrate that genetically engineered malaria vaccines hold promise.

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