# Prevention: Genetically Tooled Antibodies Fight HIV

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Engineering immune cells to produce what are known as broadly neutralizing antibodies (BNAs) protects against HIV infection in mice that have immune systems tooled to resemble those of humans. BNAs prevent infection by blocking the receptors HIV uses to latch onto human cells. About one in five people produce them in response to HIV, but usually do so too late to thwart a lifelong infection. The researchers in this study infected mice with a harmless virus, called a vector, that had been developed to deliver a genetic code to the animals' immune cells, prompting them to produce BNAs over an extended period. The mice were then repeatedly exposed to HIV. One experiment was partially successful at preventing infection with a laboratory strain of HIV. In another, the researchers used a modified form of the vector and found that it was totally successful at preventing infection with a strain of HIV known to transmit heterosexually in humans.