



This Week in Science

Apr 14, 2017

In *Science* this week, a team led by Broad Institute scientists present a new version of the genome-editing technology CRISPR/Cas9 that can be [used to diagnose](#) infections, and potentially cancer, with high sensitivity. The researchers used a form of CRISPR that targets RNA and, when it binds to its target, activates its Cas enzyme to promiscuously cleave nearby RNA. By including a reporter RNA that fluoresces when it is cleaved, the researchers created a system called SHERLOCK — short for specific high sensitivity enzymatic reporter unlocking — that could detect low levels of Zika virus in serum, urine, and saliva. They further demonstrated that the approach could be used to identify bacterial strains and certain cancer mutations. GenomeWeb has more on this study, [here](#).

Also in *Science*, a group of Chinese and US researchers [present a method](#) for whole-genome amplification. Called linear amplification via transposon insertion — or LIANTI — the method uses a promoter-containing transposon to randomly fragment the genetic material of a cell. The promoter can be used to amplify downstream DNA and, ultimately, make a DNA library that can be sequenced. The study's authors use the technique in human fibroblast cells exposed to different levels of ultraviolet light, showing that it that it covered 97 percent of the genome to outperform other whole-genome amplification methods. GenomeWeb has more on this, too, [here](#).

And in a perspective piece, collaborators from the University of Pennsylvania and Northwestern University discuss [questions of human identity](#) raised by new genomic technologies. They touch on whether changes to even a single gene alter a person's identity and how genetic alterations to improve health and cognition may impact how we perceive ourselves as humans. "By considering the complex question of what it is to be an embodied human, we will be better able to make decisions not only about ethically defensible medical research for therapies, but also whether we should progress toward a suprahuman future," they write.

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